STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

February 4, 2026

MEMORANDUM TO: Division Environmental and Construction Units

FROM: Michael A. Turchy, ECAP Group Leader
Environmental Analysis Unit

SUBJECT: Environmental Permits for the replacement of Bridge No. 91 (B-6051) on US 29/74 (Wilkinson Boulevard) over Catawba River (Lake Wylie) on the border of Gaston and Mecklenburg Counties and improve the intersection (U-6143) of US 74 (Wilkinson Boulevard) and NC 7 (Catawba Street) in Belmont, NC, Divisions 10 & 12, **TIP: B-6051 & U-6143.**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	Regional General Permit 50 *Originally issued 11/4/24, Renewed 2/2/26*	May 25, 2030
NC Division of Water Resources Section 401 Water Quality Certification	Individual Certification No. 008676 *Originally issued 7/18/24 under GC 4135, Renewed 1/22/26*	May 25, 2030
NC Division of Water Resources Buffer Certification	Catawba Riparian Buffer Certification	July 18, 2029
Federal Energy Regulatory Commission c/o Duke Energy	Conveyance Authorization	TBD

Work is authorized by the above referenced permit provided it is accomplished in strict accordance with the permitted plans. The Environmental Coordination and Permitting Group or the Division Environmental Office must be consulted if any deviation from the permit(s) is required.

The General Conditions and Certifications for Nationwide and Regional Permits can be referenced at: https://xfer.services.ncdot.gov/pdea/PermIssued/_General_Conditions_and_Certifications/

The Project Commitments "Greensheet" is located on the Preconstruction SharePoint Dashboard at: https://connect.ncdot.gov/site/preconstruction

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT
WILMINGTON REGULATORY OFFICE
69 DARLINGTON AVENUE
WILMINGTON NORTH CAROLINA 28403

February 2, 2026

Regulatory Program/Division
SAW-2019-00027

Sent Via Email: ekcheely@ncdot.gov

North Carolina Department of Transportation
Ms. Erin Cheely
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Ms. Cheely:

This letter is in response to the RGP re-verification application you submitted to the Wilmington District Regulatory Division, on January 20, 2026, for a Department of the Army general permit verification. This project has been assigned the file number SAW-2019-00027 and is known as the US 74/US 29 bridge replacement project (TIP B6051/U6143). Please reference this file number in all correspondence for this project.

A review of the information provided indicates that the proposed work would involve the replacement of a deficient bridge and intersection improvements and includes the permanent impact 583 linear feet (lf) of stream channel, 0.289 acres of wetland and 0.523 acres of open water and the temporary impact to 72 lf of stream channel, 0.084 acres of wetlands and 5.704 acres of open water. The table below provides detailed impact information:

Stream Impacts in HUC 03050101

Permit Site No.	Stream Name/ JD ID	Impact Type	Temporary (ft)	Temporary (acres)	Permanent (ft)	Permanent (acres)	Impact Description
1	SB	Fill	30	0.003	--	--	bank stabilization
		Bank Stabilization	--	--	42	0.004	
2	SC	Fill	--	--	70	0.023	Extension of 2 @ 8'X 11' RCBC. Bank Stabilization Temporary Bank Stabilization
		Bank Stabilization	18	0.006	101	0.035	
3	SD	Fill	7	< 0.001	109	0.009	Roadway fill for roadway construction.
7	SA	Fill	17	0.002	261	0.024	Road fill and bank stabilization
Total Stream Impacts for HUC 03050101			72	0.011	583		

Wetland Impacts in 03050101

Permit Site / Wetland ID[1]	Perm. Fill in Wetlands (ac)	Mechanized Clearing (ac)	Temp. Fill in Wetlands (ac)	Impact Description
2 / WA	0.016	0.007	--	mechanized clearing
3 / WD	0.098	0.031	--	mechanized clearing
4 / WC	0.010	0.018	--	mechanized clearing
5 / WB	0.071	0.029	0.084	Roadway fill, temporary trestle bridges and temporary workpad.
6 / WE	0.003	0.006	--	Roadway fill for roadway
Totals by Impact Type:	**0.198**	**0.091**	**0.084**	
Total[2] Permanent Wetland Impacts for HUC 03050101:	**0.289**			

Surface Water Impacts in HUC 03050101

Permit Site No.	Stream Name/ JD ID	Permanent or Temporary	Impact (Acres)	Impact Description
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Temporary	0.016	Temporary workpad
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Permanent	0.075	Bridge
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Temporary	0.056	Bridge
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Temporary	5.293	Temporary trestle
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Permanent	0.003	42” RCP
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Temporary	0.007	42” RCP
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Permanent	0.434	Roadway fill
5	Catawba River / Lake Wylie Catawba River / Lake Wylie	Temporary	0.314	Temporary workpad
6	Catawba River / Lake Wylie Catawba River / Lake Wylie	Permanent	0.009	Bank stabilization
6	Catawba River / Lake Wylie Catawba River / Lake Wylie	Temporary	0.006	Bank stabilization
6	Catawba River / Lake Wylie Catawba River / Lake Wylie	Permanent	0.002	Roadway fill
6	Catawba River / Lake Wylie Catawba River / Lake Wylie	Temporary	0.012	Roadway fill
Total Surface Water Impacts for HUC 03050101			**6.227**	

The US 74/US 29 bridge replacement project (TIP B6051/U6143) is located along US 74/US 29 starting at the intersection of US74/US 29 and East Catawba Street, crossing over the Catawba River/Lake Wylie, and terminating near the intersection of US 74/US 29 and Moores Chapel Loop in Belmont, Gaston and Mecklenburg Counties, North Carolina. Latitude 35.294350 and Longitude -81.180210.

We have determined that the proposed work is authorized by RGP 50 pursuant to authorities under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403) and Section 404 of the Clean Water Act (33 U.S.C § 1344). The proposed work must be accomplished in strict accordance with the enclosed general permit conditions, any regional conditions, the special conditions listed in this letter, the application materials, and the enclosed plans. If the extent of the project area and/or nature of the authorized impacts to waters are modified, a revised application must be submitted to this office for written approval before work is initiated. Any deviation from the terms and conditions of the permit, or your submitted plans, may subject the permittee to enforcement action.

This verification is valid until May 25, 2030, unless the subject general permit(s) is suspended, revoked, or is modified prior to that date such that the activity no longer complies with the terms and conditions of the general permit.

Project Specific Special Conditions:

1. The Permittee shall fully implement the enclosed Memorandum of Agreement between the Permittee, the North Carolina State Historic Preservation Officer, and the Federal Highways Administration, which is incorporated herein by reference and attached to this permit.

2. The Permittee shall fully implement the enclosed River Safety Plan.

3. In order to protect the tricolored bat, a species proposed for listing under Section 7 of the Endangered Species Act, NCDOT will adhere to the below criteria.

    a. Upon the federal listing of the tricolored bat, tree clearing will be limited to the hibernation season of October 16 through March 31 to avoid potential impacts during the active season.
    b. The existing bridge and culverts > 3 feet in manufactured diameter within the action area will be surveyed within 30 days of let to ensure absence of roosting bats. The U.S. Fish and Wildlife Service (Service) Asheville Field Office will be contacted immediately if bats are observed.
    c. Should blasting occur, it will take place after tree clearing within the action area has been completed.

This general permit verification and any associated authorizations does not preclude the necessity to obtain any other Federal, State, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Stephen Brumagin, Project

Manager of the WRDA/Transportation Branch, at 704-798-6471, or by email at stephen.a.brumagin@usace.army.mil. Please take a moment to complete our customer satisfaction survey located at https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

M. Scott Jones, PWS
WRDA/Transportation Branch Chief
USACE - Wilmington District

Enclosures

B-6051 MOA, dated December 21, 2022
River Safety Plan
Project Plans
Individual401 WQC
RGP-50

cc

Joel Howard, Div 10 PDEA (via jmhoward@ncdot.gov)
Jeffrey Wyatt, Div 12 DEO (via jlwyatt@ncdot.gov)

Compliance Certification Form

File Number: SAW-2019-00027 **Counties: Gaston & Mecklenburg**

Permittee: North Carolina Department of Transportation, Ms. Erin Cheely

Project Name: US 74/US 29 bridge replacement project (TIP B6051/U6143)

Date Verification Issued: 2/2/2026 Project Manager: Stephen Brumagin

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification, and return it to the following address:

US ARMY CORPS OF ENGINEERS
Wilmington District
Attn: Steve Brumagin
WRDA / Transportation Branch,
8430 Univ. Exec. Park Dr.
Charlotte, NC 28262
or
stephen.a.brumagin@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work, and mitigation (if applicable), authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit including any general or specific conditions.

Date Authorized Work Started: _____ **Completed: _____**

Describe any deviations from permit (attach drawing(s) depicting the deviations):

_____

_____

***Note: The description of any deviations on this form does not constitute approval by the Corps.**

_____ _____

Signature of Permittee **Date**

US Army Corps of Engineers – Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: Mr. Michael Turchy **Action ID:** SAW-2019-00027
Project Name: US 74/US 29 bridge replacement project (TIP B6051/U6143) **County:** Gaston

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Division of Mitigation Services (NCDMS), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that Wilmington District Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one Mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate Mitigation Sponsors.

Instructions to Sponsor: The Sponsor verifies that the mitigation requirements (credits) shown below have been released and are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated ledger to the Permittee, the Project Manager who issued the permit, the Bank Project Manager, and the District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements

Permitted Impacts Requiring Mitigation*: 8-digit HUC and Basin: 03050101, Catawba River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
440				0.289		

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements: 8-digit HUC and Basin: 03050101, Catawba River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
880				0.578		

Mitigation Site Debited:_____
(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCDMS), as approved by the Wilmington District, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name:_____

Name of Sponsor's Authorized Representative:_____

_____ _____
Signature of Sponsor's Authorized Representative **Date of Signature**

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the District is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the District is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. When NCDMS provides mitigation for authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by NCDMS must be provided to the District within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the District has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the District Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the District, the Sponsor must obtain case-by-case approval from the District Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the District administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed below by the District Project Manager and by the Mitigation Sponsor on Page 1. ***Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the District Project Manager at the address below, 3) the Bank Manager listed in RIBITS, and 4) the Wilmington District Mitigation Office, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587 (or by email to SAWMIT@usace.army.mil)***. Questions regarding this form or any of the permit conditions may be directed to the District Mitigation Office.

USACE Project Manager: **Crystal Amschler**
USACE Field Office: WRDA / Transportation Branch,
US Army Corps of Engineers
151 Patton Ave Rm 208
Asheville
Email: **crystal.c.amschler@usace.army.mil**

Crystal Amschler Digitally signed by Crystal Amschler
Date: 2024.11.04 16:50:50 -05'00'

Wilmington District Project Manager Signature

Click here to enter a date.

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at http://ribits.usace.army.mil.

MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION,
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
REPLACEMENT OF GASTON COUNTY BRIDGE NO. 91 ON US 74
OVER THE CATAWBA RIVER IN GASTON COUNTY
NORTH CAROLINA
NCDOT TIP B-6051

WHEREAS, the Federal Highway Administration (FHWA) has determined that Transportation Improvement Project B-6051 – the replacement of the structurally deficient, four-lane Gaston County Bridge No. 91 on US 74 over the Catawba River in Gaston County (the Undertaking) – will have an adverse effect upon Bridge No. 91, a steel stringer bridge determined eligible for listing in the National Register of Historic Places (NRHP) (historic property); and

WHEREAS, the FHWA has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), as amended by 54 USC §§ 300101, et seq., and its implementing regulations, 36 CFR Part 800; and

WHEREAS, NCDOT has participated in the consultation and has been invited by the FHWA and the SHPO to be a signatory to this MOA; and

WHEREAS, the FHWA has notified the Advisory Council on Historic Preservation (Council) of the adverse effect, and the Council has declined to comment or participate in the consultation,

NOW, THEREFORE, the FHWA, NCDOT, and the North Carolina SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations to take into account the effects of the Undertaking on the historic property.

STIPULATIONS

The FHWA and NCDOT will ensure that the following measures are carried out:

I. Photographic Recordation

Prior to the initiation of construction, NCDOT will record the existing conditions of the Gaston County Bridge No. 91 in accordance with the attached Historic Structures and Landscape Recordation Plan (**Appendix A**). Copies of the documentation will be deposited in the files of the North Carolina Historic Preservation Office (NC HPO) and NCDOT's Historic Architecture Group.

II. Design Replacement Structure

NCDOT will ensure the following elements are incorporated into the design and construction of the new bridge:

A. Church Rail
B. New End Rails will emulate the curve of existing end rails and include replica plaques

III. Unanticipated Discoveries

A. In accordance with 36 CFR 800.13(a), if NCDOT identifies any one or more additional cultural resources during construction and determines them to be eligible for the NRHP, all work shall halt within the limits of the NRHP-eligible resource(s), and the FHWA and North Carolina SHPO will be contacted. If, after consultation with the Signatories additional mitigation is determined necessary, the NCDOT, in consultation with the Signatories, will develop and implement appropriate protection and/or mitigation measures for the resource(s).
B. Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statute Chapters 65 and 70.

IV. Dispute Resolution

Should any of the Parties to this Agreement object within thirty (30) days to any plans or documentation provided for review pursuant to this MOA, the FHWA shall consult with the objecting Party(ies) to resolve the objection. If the FHWA or the objecting Party(ies) determines that the objection cannot be resolved, the FHWA will forward all documentation relevant to the dispute to the Council. Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

A. Provide the FHWA with recommendations, which the FHWA will take into account in reaching a final decision regarding the dispute; or
B. Notify the FHWA that it will comment pursuant to 36 CFR Section 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the FHWA in accordance with 36 CFR Section 800.7(c)(4), with reference to the subject of the dispute.

Any recommendations or comments provided by the Council will be understood to pertain only to the subject of the dispute; the FHWA's responsibility to carry out all the actions under this Agreement that are not the subject of the dispute will remain unchanged.

V. Amendments

Should any of the Signatories to this MOA believe that its terms cannot be carried out or that an amendment to the terms must be made, the Party(ies) shall immediately consult with the other Party(ies) to develop amendments in accordance with 36 CFR 800.6(c)(7). If an amendment cannot be agreed upon, the dispute resolution process set forth in Stipulation III will be followed.

VI. Termination

Any of the Signatories may terminate this MOA by providing notice to the other Parties, provided that the Parties consult during the period prior to termination to make a good faith effort to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR 800. This MOA may also be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.

VII. Duration

Unless terminated pursuant to Stipulation III above, this MOA will be in effect until the FHWA, in consultation with the other Signatories, determines that all its terms have satisfactorily been fulfilled or if NCDOT is unable or decides not to construct the Undertaking.

Execution of this MOA by the FHWA, NCDOT, and the North Carolina SHPO, its subsequent filing with the Council, and implementation of its terms is evidence that the FHWA has afforded the Council an opportunity to comment on the Undertaking, and that the FHWA has taken into account the effects of the Undertaking on the historic property.

AGREE:

Federal Highway Administration

By: _____ Date: 1/23/2023
John F. Sullivan III, P.E.
Division Administrator

North Carolina State Historic Preservation Officer

By: _____ Date: 12/19/2022
Dr. Darin J. Waters
State Historic Preservation Officer

North Carolina Department of Transportation

By: DocuSigned by: Jamie Lancaster 50485DB2000A450... Date: 12/22/2022
Jamie J. Lancaster, P.E.
Environment Analysis Unit Head

FILED:

By: _____ Date: _____
[Name]
[Title]
Advisory Council on Historic Preservation

APPENDIX A

Historic Structures and Landscape Recordation Plan for the Replacement of Gaston County Bridge No. 91 Gaston County North Carolina NCDOT TIP B-6051

Photographic Requirements

- Representative pictures of the Gaston County Bridge No. 91, including elevation and oblique views of the bridge and its setting.

Photographic Format

- Color digital images (all views) shot with an SLR digital camera with a minimum resolution of 6 megabyte pixels, at a high quality (preferably RAW) setting, to be saved in TIF format as the archival masters and labeled according to NC HPO standards.
- Drone photographic standards if different from above
- File names for each image should follow the format:
  SS#_ResourceName_DateofPhoto_InitialsofPhotog-FrameNo.tif.
- Printed inventory (photolog) of the images should be provided as a table with the file name and description for each image – including subject, location, date, and photographer information for each image.
- Contact sheets should be printed on premium quality, bright white paper (24lb) or photo paper with a maximum of nine images per sheet. The back of the contact sheet should have the following information written in archival black ink.
  NCDOT TIP#
  NCHPO ER#
  NCDOT Photorecordation for MOA
  Survey Site Number and Name of Property
  Road Name
  Vicinity or Town
  County
  Photographer's Name and Date of Photography
- A labeled map with a key to the shots and photographs should be included in the documentation.
- The individual images, photolog, and map should be saved electronically on a compact disc labeled similar to the contact sheets.

Copies and Curation

- One (1) set of all above mentioned photographic documentation, including the compact disc of labeled images, will be deposited with the North Carolina Office of Archives and History/NC HPO to be made a permanent part of the statewide survey and iconographic collection.
- One (1) set of contact sheets shall be deposited in the files of the NCDOT's Historic Architecture Group.

US 29/74/WILKINSON BOULEVARD IMPROVEMENTS
STIP PROJECT NO. B-6051

GASTON AND MECKLENBURG COUNTIES

NCDOT DIVISIONS 10 AND 12

RIVER SAFETY PLAN

FOR THE CONSTRUCTION OF GASTON COUNTY NO. BRIDGE 91

OVER THE CATAWBA RIVER (LAKE WYLIE)

The proposed project (B-6051) will replace the existing Bridge No. 91 carrying Wilkinson Boulevard/US 74/US 29 over the Catawba River (Lake Wylie) with a new, wider bridge on the existing alignment. Once completed, the new bridge will increase navigational vertical clearance for boating traffic on Lake Wylie, but there will be temporary impacts during construction activities to recreational boating on Lake Wylie. To ensure the safe passage of river users during the construction and demolition of Bridge No. 91 over the Catawba River (Lake Wylie), NCDOT has developed this River Safety Plan (RSP).

Boater Notifications

Recreational boaters will be notified of construction activities via placards at public access boat ramps on Lake Wylie. At each boat launch, placards shall be displayed at the loading areas informing boaters of the construction impacts to waterway access under the NCDOT Gaston Bridge 91. The placards will clearly communicate what the boater should expect in the vicinity of the subject bridges and appropriate safety precautions to be taken through text and graphics. The placards will be displayed a minimum of two weeks prior to the installation of any floating barricade system and the associated work to be performed on the structure. The placards shall be posted at each of the following locations:

- Kevin Loftin Riverfront Park, 1400 E Catawba St, Belmont, NC 28012 (Coordinates: 35.24461,-81.01345)
- Mt. Holly Boat Landing, 724 Elm Avenue, Mt. Holly, NC 28120 (Coordinates 35.29849, -1.00480)
- Southpoint Boat Ramp, Boat Launch Road, Belmont, NC 28012 (Coordinates 35.15627, -81.01220

Prior to installing placards, the contractor shall coordinate with the boat ramp access owner and the Lake Wylie Marine Commission.

Contractor Requirements

A public access boat ramp is located in the southwest quadrant of the project and owned and operated by the City of Belmont as part of Kevin Loftin Riverfront Park. Because of its convenient public access from Wilkinson Boulevard, recreational boating traffic associated with this public access boat ramp is expected to be moderate to high at various times of the year. The contractor will be required to maintain boating traffic through the construction zone at all times during construction. Boating channels will have to shift multiple times to allow for the different phases of construction and/or demolition.

Construction that impacts the open waterway will occur in a way to preserve a safe, open recreational boating channel through the project construction area.

A system of buoys and marine safety lights will be employed to protect recreational boater traffic from the work area construction activities. At all times, a safe open recreational boating channel will be maintained, and the vertical clearance will not be reduced below those present in the existing conditions. Notification placards describing construction activities as well as a more detailed *Boater Safety Plan* will be placed, in duplicate, at three public boat access ramps mentioned earlier on Lake Wylie.

Navigational Buoys

There are currently channel markers and a no wake buoy up and down stream of the existing bridge placed by North Carolina Wildlife Resources Commission (NCWRC).

The safe boating channel will need to shift several times over the course of the project. Based on coordination with the NCWRC and Lake Wylie Marine Commission the contractor will be responsible for relocating the barricade and buoys throughout construction. Upon completion of construction, all buoys and barricades will be removed by the contractor.

Marine Safety Lights

LED marine safety lights will be placed atop “Slow No Wake” buoys and “Keep Out” buoys and Boat Detour Signs. The lights will be placed a minimum of two feet above the water line to provide a visual barrier both day and night. These marine lights help protect boaters during the early morning and late afternoon/evening hours or when cloud cover reduces visibility for boaters. The lighted buoys will be put into place prior to the commencement of any work on the structure and shifted periodically, as needed to protect boaters from exposure to the construction activities. The contractor will be responsible for maintaining these lights at all times during construction, replacing them as necessary.

US 29/74/WILKINSON BOULEVARD

GASTON COUNTY NO. BRIDGE 91 OVER CATAWBA RIVER (LAKE WYLIE)

GASTON AND MECKLENBURG COUNTIES

NCDOT DIVISIONS 10 AND 12

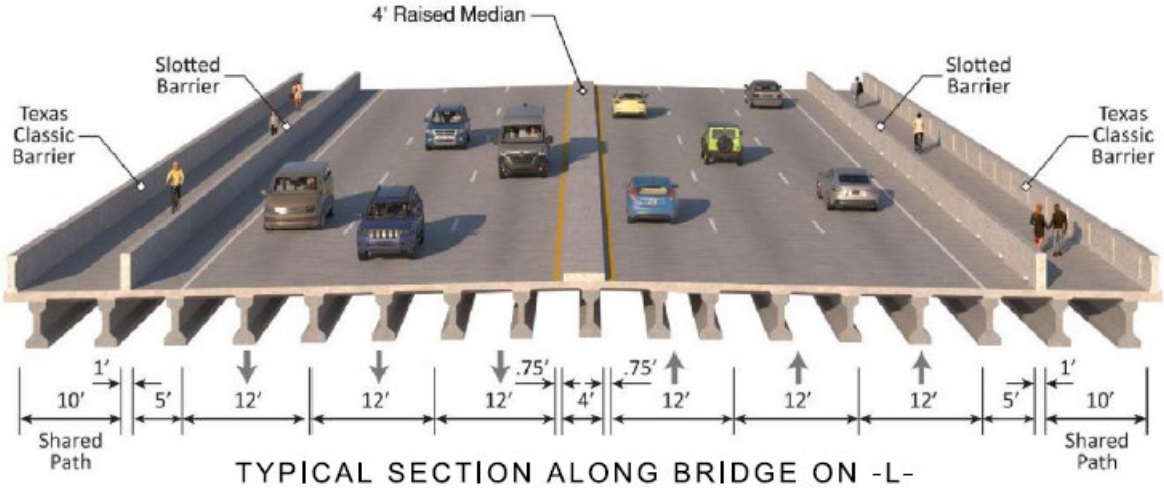
STIP Project No.: B-6051

Boater Safety Plan
December 2023

Introduction

NCDOT Gaston County Bridge No. 91 (Sloan's Ferry Bridge) consists of four travel lanes on US 29/74/ Wilkinson Boulevard over the Catawba River (Lake Wylie; Duke Energy hydropower lake) crossing the Gaston County –Mecklenburg County line located at the eastern edge of Belmont, North Carolina.

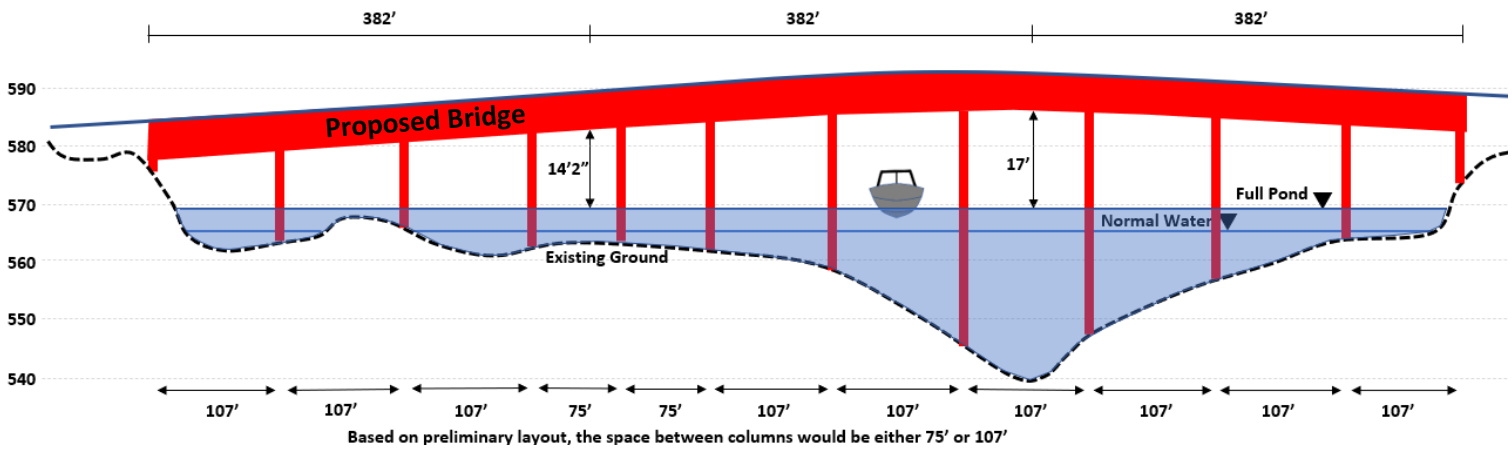
The proposed project (B-6051) involves replacing Bridge No. 91 over the Catawba River. The replacement structure will be approximately 1,145 feet in length and be wider to the north side with a minimum clear roadway width of 109.5 though most of the bridge flaring to 115.5 feet on the western end. The proposed project is listed in the current NCDOT 2020-2929 Transportation Improvement Program (STIP) along with an adjacent intersection improvement project: U-6143 to the west is scheduled to be let with the bridge project. Right-Of-Way is presently being acquired with construction to begin in late fall 2023. The proposed bridge typical section will include six 12 foot lanes, a 4 foot concrete median in the center, 5 foot offsets between the outside travel lanes and concrete barriers separating the travel lanes from 10 foot wide multi use paths on either side of the bridge. In accordance with the *Intermodal Integrated Mobility Division* guidance, a minimum bicycle-safe railing height of 42" will be required.



TYPICAL SECTION ALONG BRIDGE ON -L-
US 29-74 / WILKINSON BLVD.

Construction activity on Wilkinson Boulevard will extend approximately 1,700 feet west of the proposed bridge and approximately 1750 feet east of the proposed bridge, respectively. Wilkinson Boulevard (US 74/29) has a functional classification of other principal arterial with a design speed of 50 mph and a proposed posted speed of 45 mph. Traffic will be maintained on-site using the existing bridge and roadway alignment during the construction of the northern half of the new bridge. Traffic will then be shifted to the new portion while the existing bridge is demolished. The southern half of the new bridge will then be constructed and upon completion, the bridge will be opened to six lanes of traffic and multi-use paths on either side.

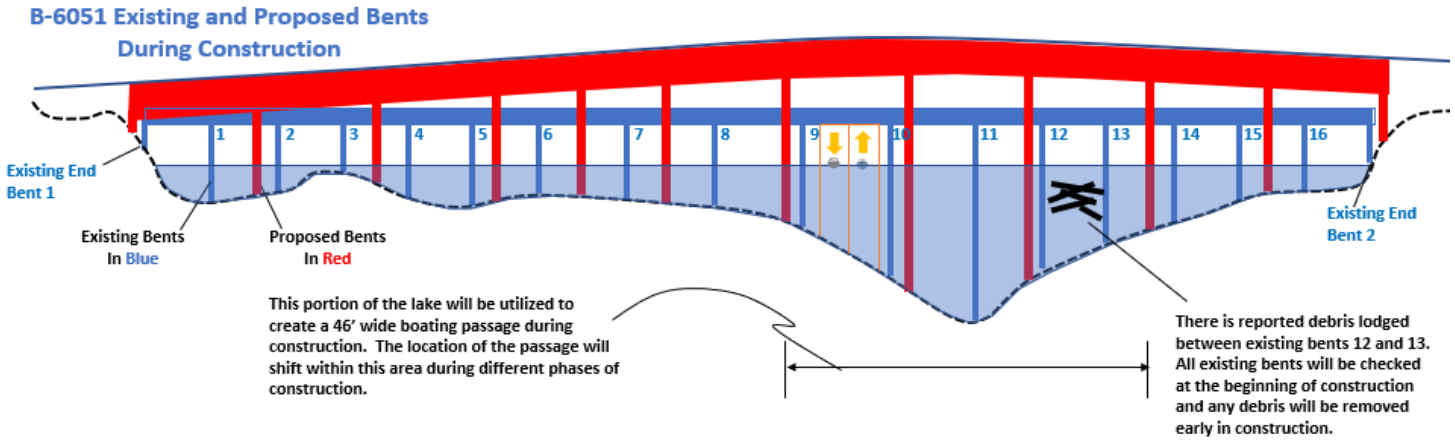
The existing bridge has 8.6 feet of clearance over full pond elevation. The Duke Shoreline Management Plan requires 12 feet over the middle third of the lake crossing. Based on feedback NCDOT received from Mecklenburg County Emergency Services coordination, 16 feet of clearance is required for one of their response boats. The proposed bridge will be a bow shape having at least 12 feet of clearance over full pond elevation more the middle third of the bridge while peaking at 17 feet over the deepest portion of the lake (see image on next page).



Once completed, the proposed work will increase navigational vertical clearance for boating traffic on Lake Wylie, but there will be temporary impacts during construction activities to recreational boating on Lake Wylie. A public access boat ramp is located in the southwest quadrant of the project and owned and operated by the City of Belmont as part of Kevin Loftin Riverfront Park. Because of its convenient public access from Wilkinson Boulevard, recreational boating traffic associated with this public access boat ramp is expected to be moderate to high at various times of the year. The contractor will be required to maintain boating traffic through the construction zone at all times during construction.

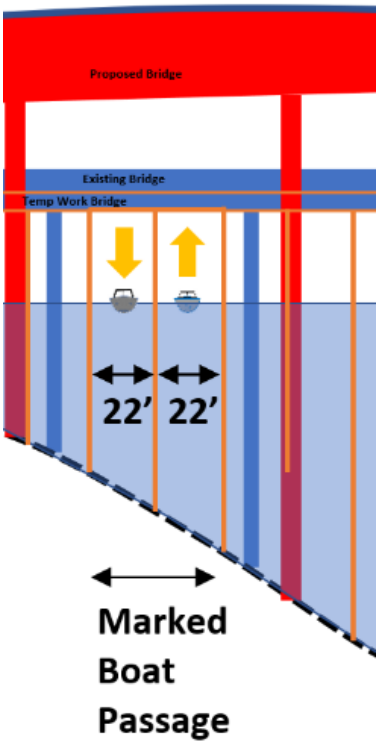
Scope of Construction Activities

The Lake Wylie Marine Commission (LWMC) has reported existing debris between existing bents 12 and 13. The contractor will be required to check and clear all existing bents of debris early in construction.



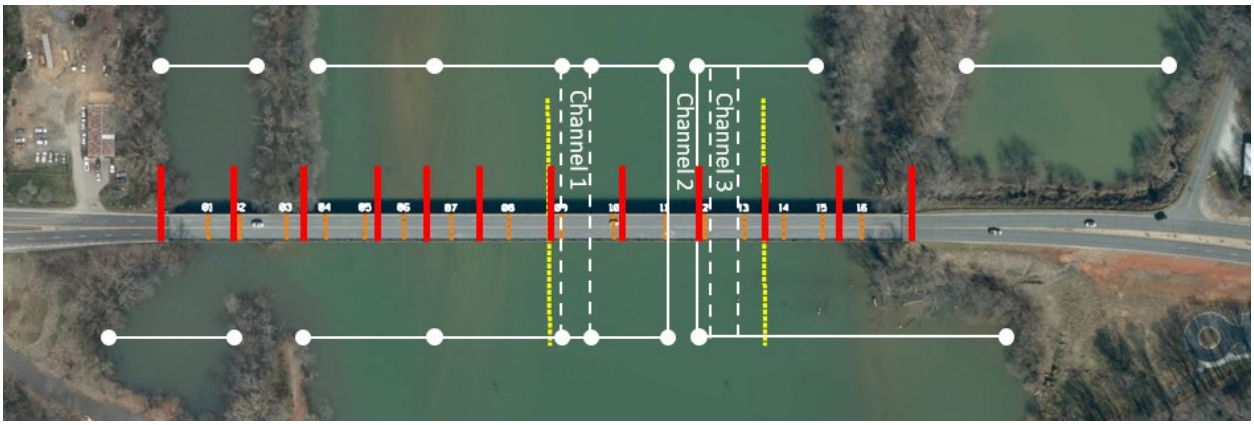
Because a substantial portion of the lake contains shallow waters not accessible by barges, a temporary work bridge on the north side of the new bridge and another on the south side are anticipated to provide sufficient access for a contractor to build the new bridge. Depending on the size of crane that the contractor may choose, the temporary work bridges will likely be constructed of steel piles topped with 2 to 3 foot tall steel girders and 1 foot thick timber deck. The low chord of the spans will match the low chord on the existing bridge (8.6 feet above full pond elevation). Work pads may be used to access the ends of the bridge from dry land. The work pads will not interfere with boating.

The work bridge spans at the location where a boating channel is provided will be a minimum of 25 feet long providing 22 feet of navigational width. An open console boat is the largest vessel anticipated on this lake. The proposed 22 foot width is sufficient for passage of the typical 8.5 foot wide open console boat but not enough for two boats to pass in opposite directions. If 22 feet is the span width, the contractor would be required to maintain a pair side by side as shown in the figure to the right. Depending on the size of crane the contractor deems necessary, one span may be possible but it would have to provide 44' of navigable horizontal clearance. Either scenario would allow enough space for safe passage of boats in the opposite direction.



These safe boating channels will have to shift multiple times to allow for the different phases of construction and/or demolition (see attached Figures and Table 1 below). To avoid shallow waters, the two span boating channel will be kept somewhere between existing bents 9 and 13 shown in image on previous page, which provides the deeper part of the channel for navigation.

Once any debris found is clear, the contractor will have a few possible locations where the boat channel requirements are feasible and can fit between both the existing and proposed bents. Examples are shown below. The orange shows existing bents, the red shows proposed bents, the yellow dashed line illustrates the area of sufficient depth for boating. The white lines show a floating barricade and lighted buoy system that will guide boaters safely through the work zone while keeping them away from active construction. The plan is described in greater detail later in this document. Larger versions of the image below are attached as figures.



Contractor Access

Access for construction workers, equipment, and construction activity will be from temporary work bridges on Lake Wylie that connect to the shore via a work pad. The contractor will likely operate a small boat to service the buoy and floating barricade system . The boat will be launched and retrieved from the Kevin Loftin Park boat ramps as needed.

Construction that impacts the open waterway will occur in a way to preserve a safe, open recreational boating channel through the project construction area.

Bridge Construction Items

Utility relocation, new bridge construction, existing bridge demolition associated with the proposed project will be performed in a manner that prevents debris from falling into Lake Wylie. The contractor will submit a Demolition Management Plan to NCDOT for approval.

Mooring Requirements

When utilizing a boat for servicing the floating barricade, when not in use, the contractor will either remove the boat at the nearby boat ramp or take all necessary precautions to ensure that the vessel is securely anchored or moored to the temporary work bridge within the defined no boating construction zone. If moored, the boat will be equipped with lights and a flashing beacon. If severe weather conditions are anticipated through reasonable monitoring of weather forecasts, the contractor shall take appropriate measures to either remove the boat or adequately moor the work vessels within the defined construction work area during the extreme conditions.

Boater Notifications

Recreational boaters will be notified of construction activities via placards at public access boat ramps on Lake Wylie. At each boat launch, placards shall be displayed at the loading areas informing boaters of the construction impacts to waterway access under the NCDOT Gaston Bridge 91. The placards will clearly communicate what the boater should expect in the vicinity of the subject bridges and appropriate safety precautions to be taken through text and graphics. The placards will be displayed a minimum of two weeks prior to the installation of any floating barricade system and the associated work to be performed on the structure. The information placards will provide contact information for the contractor, NCDOT, NCWRC, and Duke Energy so that the public can make inquires or report damage, vandalism, or operational problems with the construction activities including any floating barricade system. The placards shall remain in-place and maintained for the duration of the project construction period. The placards shall be posted at each of the following locations:

- Kevin Loftin Riverfront Park, 1400 E Catawba St, Belmont, NC 28012 (Coordinates: 35.24461,-81.01345)
- Mt. Holly Boat Landing, 724 Elm Avenue, Mt. Holly, NC 28120 (Coordinates 35.29849, -1.00480)
- Southpoint Boat Ramp, Boat Launch Road, Belmont, NC 28012 (Coordinates 35.15627, -81.01220

Prior to installing placards, the contractor shall coordinate with the boat ramp access owner and the Lake Wylie Marine Commission.

Boater Safety System – Lighting

LED marine safety lights will be placed atop "Slow No Wake" buoys and "Keep Out" buoys) and Boat Detour Signs. The lights will be placed a minimum of two feet above the water line to provide a visual barrier both day and night. These marine lights help protect boaters during the early morning and late afternoon/evening hours or when cloud cover reduces visibility for boaters. The marine safety lights should provide visibility in flashing mode up to one nautical mile. They should be set for "flash" mode at a rate of one flash per second. They should be seen no matter the boater's position; if not mounted perfectly level; or if the buoy is bobbing or

swaying. All routine maintenance activity for the buoy barricade boat safety system is restricted to occur only during day light hours. Emergency repairs will be made as needed and at any time.

Navigational Buoys for Boaters

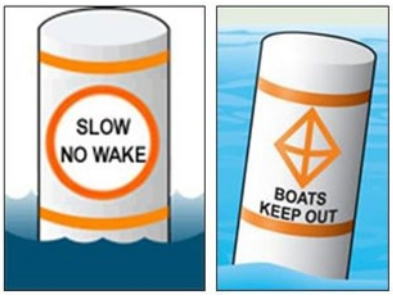
There are currently channel markers and a no wake buoy up and down stream of the existing bridge placed by NCWRC.

Since the safe boating channel will need to shift several times (as described in the Scope of Construction Activities Section above) over the course of the project, based on coordination with the North Carolina Wildlife Resources Commission and Lake Wylie Marine Commission NCDOT's contractor will be responsible for relocating the barricade and buoys throughout construction. Upon completion of construction all buoys and barricades will be removed.

It is anticipated that two "Slow No Wake" buoys both 400 feet upstream and 400 feet downstream of the barricaded area. The placement of these buoys is shown in Figures 3 through 17 as black circles to the east and west of the project construction areas.

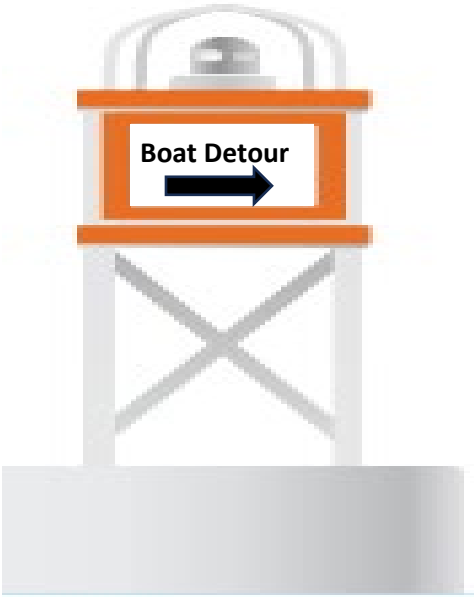
Coast Guard-approved "Keep-Out" buoys and a floating barricade system will be installed approximately 100 ft. upstream and downstream of the project construction areas to keep boaters out of the construction zone. "Slow No Wake" buoys will be equipped with white strobe light LED marine safety lights and "Keep-Out" buoys will be equipped with red strobe light LED marine safety lights. The safe boat access channel will be marked by buoys with green strobe light LED marine safety lights. Buoys shall conform to US Coast Guard "U.S. Aids to Navigation Systems" regulations. (https://www.uscgboating.org/images/420.PDF)

The locations shown in the attached figures are approximate and not to scale.



Graphic 2 Navigations Bouys

A series of signs saying Boat Detour with directional arrows will be placed atop buoys with a flashing beacon atop the sign to direct boat traffic to the safe boating channel as illustrated in the phasing diagrams at the end of this document.



Deployment of Boater Safety System

The lighted buoys will be put into place prior to the commencement of any work on the structure and shifted periodically, as needed and in conformance with the "Staging Plan" outlined below, to protect boaters from exposure to the construction activities. Due to the wide channel of the navigational area, law enforcement is not anticipated to be required during the deployment of the boater safety floating barricade system. Deployment and redeployment will occur during daylight hours. The deployment and redeployment operation(s) will occur from a barge and/or a work skiff. The lights will be inspected daily and non-functioning lights will be repaired immediately.

In the event of a barricade failure, the NCDOT resident engineer will be the liaison between the LWMC, NCWRC and the contractor. The barrier will be addressed as quickly as possible with a target of restoring the barrier no more than 48 hours from the incident. If the contractor is not responsive to address a failure in the barricade, all project work will be stopped and the contractor will not be paid until the contractor compliance.

Staging Plan

The contractor will maintain a safe open recreational boating channels open at all times. The location will vary depending on the Phase of the project (see attached Figures and Table 1). The contractor will be responsible for shifting of floating barricades prior to commencing work within a construction area.

To delineate safe access, green lighted buoys will be installed on each side of the approved safe boat access channel for boaters upstream and downstream of the project construction areas; white lighted "Slow No Wake" buoys will be installed across the width of the safe open recreational boating channel, approximately 100 ft. upstream and downstream of either end of the safe open recreational boating channel; and red solar lights "boats keep out" buoys will be installed to delineate the limits of the

construction work area(s) and to identify navigation hazard bents located within the safe boat access channel.

While work bridges spanning the entire lake connecting to land on the west side is a likely approach, it's also possible that based on the contractor's available equipment and creativity, that they may have a different scheme that accelerates construction or reduces costs. This would mean variations on the phasing described below but the principle of keeping an open boating channel away from the construction activities of that phase would still be required. If the contractor chooses another phasing plan, that plan must be submitted to NCDOT who will share it with Duke, the Lake Wylie Marine Commission and NCWRC to obtain approval prior to construction.

Table 1. Sequence of Waterway-Impacting Activities

Construction Phase	Anticipated Begin and End Date	Construction Activity and Phasing Option (Figure)	Safe Open Recreational Boating Channel Description
Phase 1: Deploy Boater Safety Zone Northern Work Bridge	Dec 2023 through Mar 2024	A. Deploy Boater Safety Zone (Figure 2) B. Build part of northern work bridge from western shore. Place permanent causeway fill. Place temporary work pad fill. (Figure 3) C. Build remainder of northern work bridge. (Figure 4)	A. Configure for Channel 2 between existing bents 11 and 12 B. Keep Channel 2 configuration C. Use Channel 1

Table 1. Sequence of Waterway-Impacting Activities - Continued

Construction Phase	Anticipated Begin and End Date	Construction Activity and Phasing Option (Figure)	Safe Open Recreational Boating Channel Description
Phase 2: Construct Northern half of New Bridge	Mar 2024 through Mar 2025	A. Build End Bents and Interior Bents 1-5 and 7-10 (Figure 5) B. Build Bent 6 and build spans 1-8, 10-11 (Figure 6) C. Build Span 9 (Figure 7)	A. Keep Channel 1 Configuration B. Use Channel 3 C. Use Channel 1
Phase 3 Remove northern work bridge. Build Southern work bridge configured for demolition	Mar 2025 through Jul 2025	A. Remove northern work bridge and work pads and build southern work pads and western part of temporary work bridge (Figure 8) B. Build remainder of temporary work bridge (Figure 9)	A. Use Channel 3 B. Use Channel 1

Phase 4: Demolish Existing Bridge (Figures 2-4)	Jul 2025 through Nov 2025	A. Remove end bents, remove bents and spans 1-8, and bents 12-16 (Figure 10) B. Remove eastern two demolition fingers and remainder of existing bridge (Figure 11) C. Remove remaining demolition fingers, build new fingers to allow extending new bents to the south (Figure 12)	A. Keep Channel 1 configuration B. Use Channel 3 C. Keep Channel 3 configuration
Phase 5 Build southern half of new bridge	Nov 2025 through Nov 2026	A. Extend end bents and interior bents 1-7 (Figure 13) B. Extend bents 8-10 (Figure 14) C. Extend spans 1-5 and 8-11 (Figure 15) D. Extend spans 6 and 7 (Figure 16)	A. Keep Channel 3 configuration B. Use Channel 1 C. Keep Channel 1 configuration D. Use Channel 3
Phase 6 Remove eastern work bridge	Nov 2026 through Dec 2026	A. Remove eastern portion of work bridge (Figure 17) B. Remove remainder of work bridge and temporary fill (Figure 18)	A. Use Channel 3 B. Keep Channel 3
Phase 7 Restore normal boating	Dec 2026	A. Remove Boater Safety Zone and restore normal boating in lake (Figure 19)	

Time restrictions:

The contractor will facilitate the following coordination of construction activities with required time sensitive restrictions associated with implementation of the Navigation (i.e., recreational boating) Safety Plan:

- Construction Operations: none (operations can occur 24 hours per day, 7 days per week)
- Boater Safety System: operational throughout the project construction operations
- Repairs: as needed (anytime 24 hours per day, 7 days per week)

Staging Area for Contractor's Equipment & Materials

The contractor is responsible for procuring offsite staging locations and meeting all requirements of the respective property owner(s).

Standards

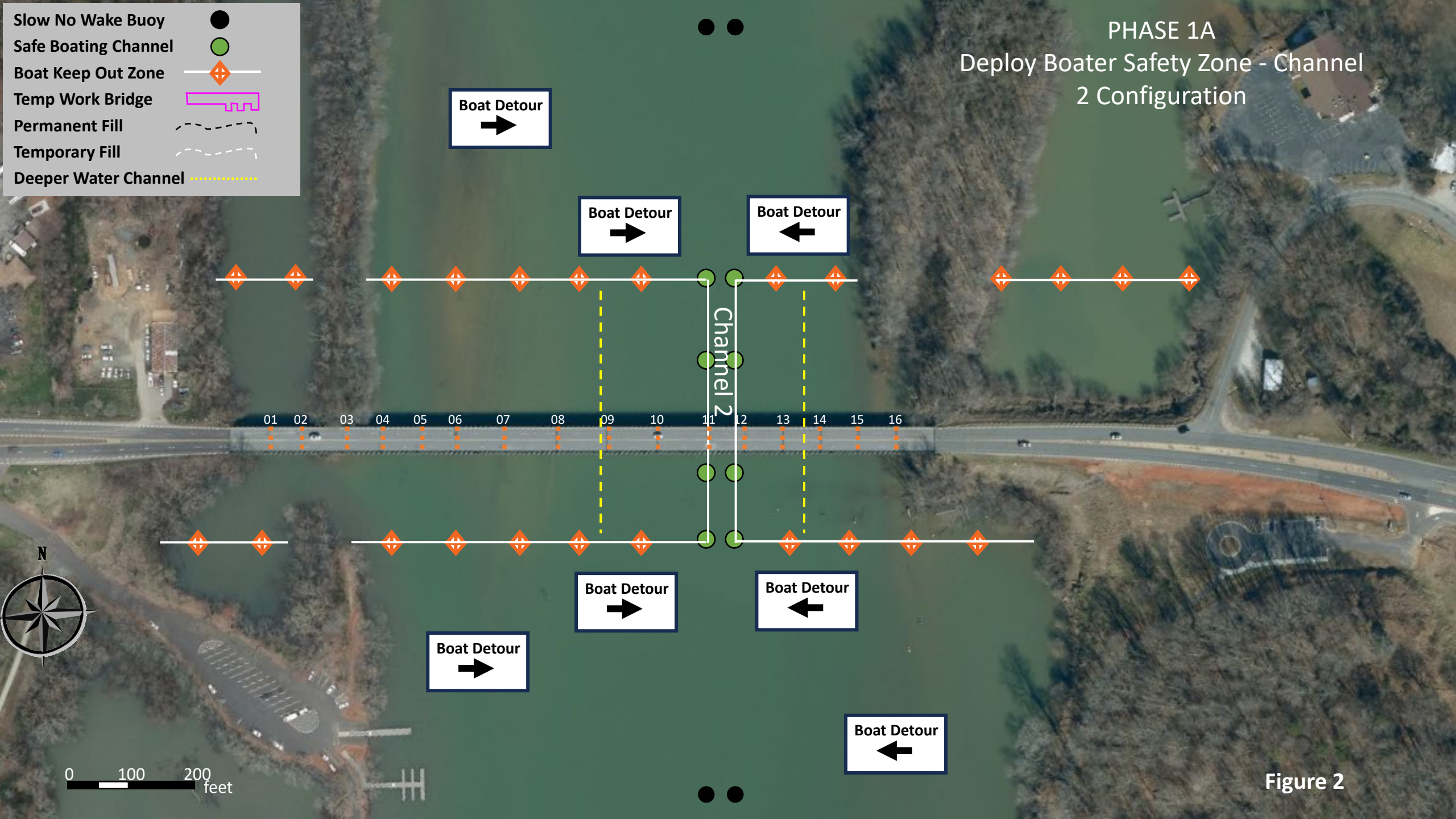
- NCDOT Standard Specification for Roads and Structures, January 2018
- AASHTO Guide Design Specification for Bridge Temporary Works

Conclusion

The proposed project (B-6051) will replace the existing Bridge No. 91 carrying Wilkinson Boulevard/US 74/US 29 over the Catawba River (Lake Wylie) with a new, wider bridge on the existing alignment. The proposed new bridge will meet current NCDOT bridge design standards. The proposed project's construction activities will have an impact on recreational boater traffic on Lake Wylie. This document outlines the requirements for notification and protection of boaters and the general scope of work that will impact Lake Wylie. A system of buoys and marine safety lights will be employed to protect recreational boater traffic from the work area construction activities. At all times, a safe open recreational boating channel will be maintained, and the vertical clearance will not be reduced below those present in the existing conditions. Notification placards describing construction activities and this Navigation Safety Plan will be placed, in duplicate, at three public boat access ramps to Lake Wylie.

Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Thalweg
Belmont/ Gaston County
Existing Interior Bents
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16
Wilkinson Blvd
Gaston County Bridge 91
ISWA Nature Preserve
N
Kevin Loftin Riverfront Park
Lake Wylie / Catawba River
Mecklenburg County
0 100 200 feet

Figure 1


PHASE 1A
Deploy Boater Safety Zone - Channel 2 Configuration
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 2
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16
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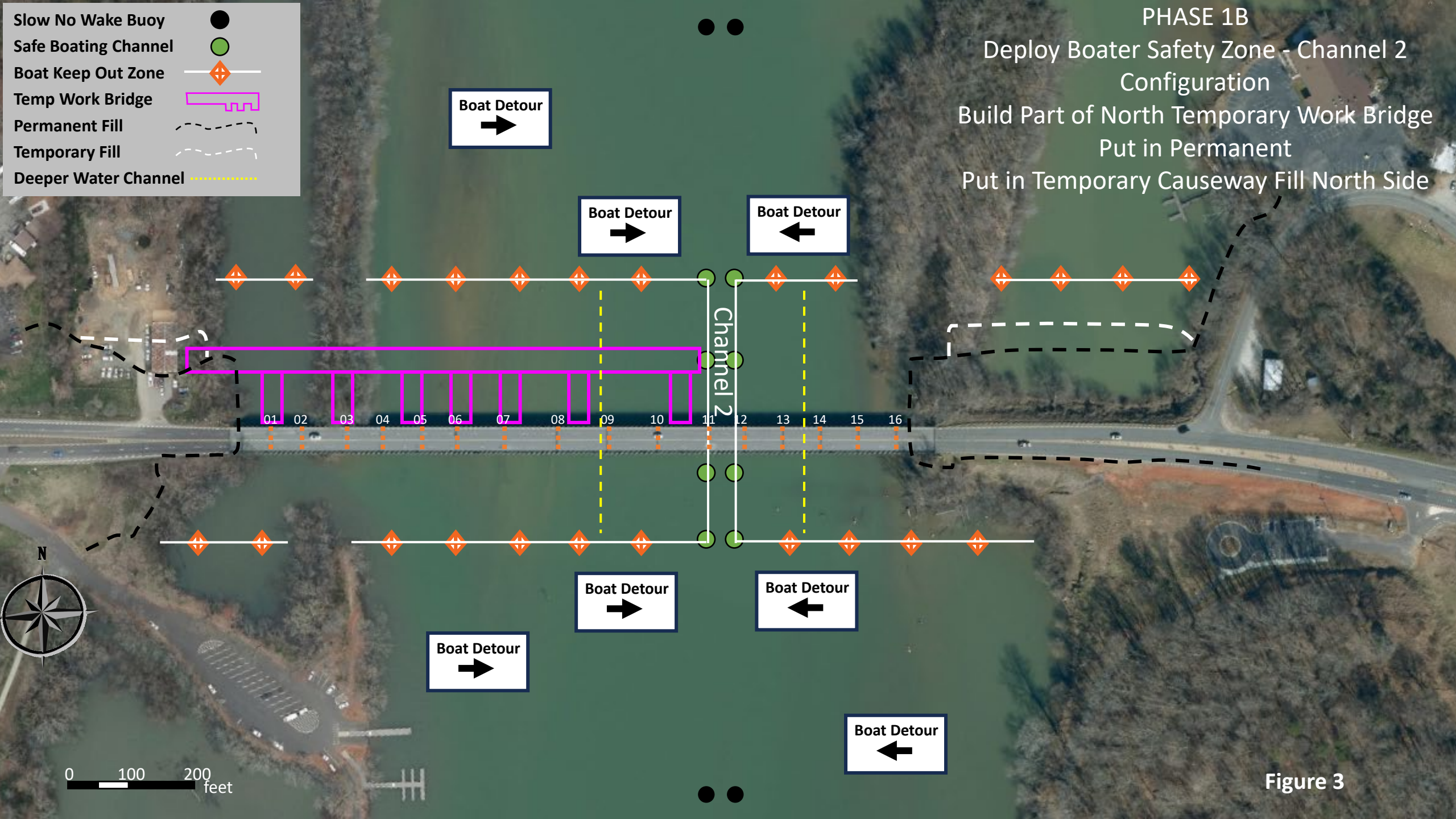
feet

Figure 2


PHASE 1B
Deploy Boater Safety Zone - Channel 2 Configuration
Build Part of North Temporary Work Bridge
Put in Permanent
Put in Temporary Causeway Fill North Side
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Channel 2
01
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09
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16
Boat Detour
Boat Detour
Boat Detour
Boat Detour
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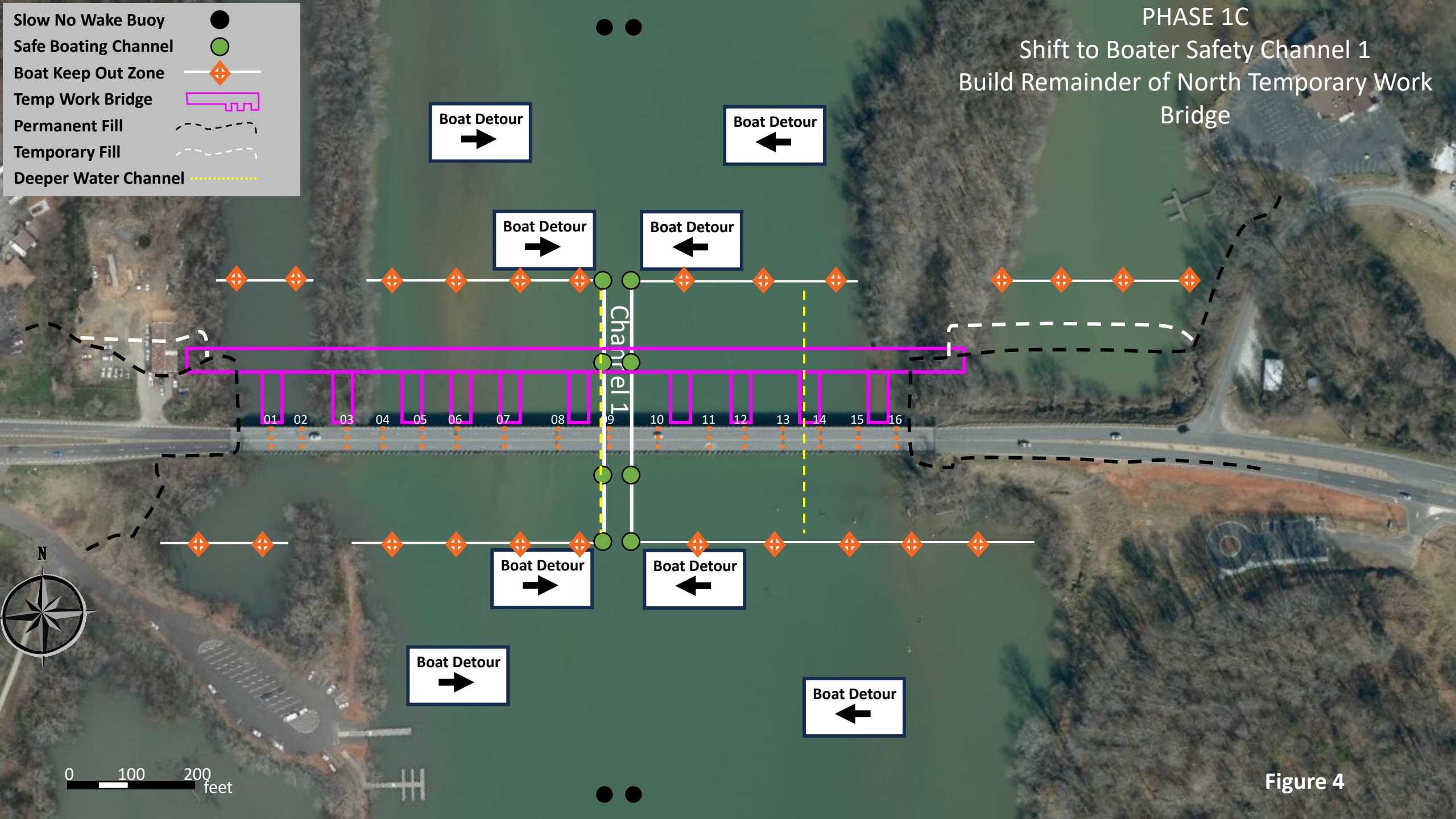
Figure 3


PHASE 1C
Shift to Boater Safety Channel 1
Build Remainder of North Temporary Work Bridge
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
01
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14
15
16
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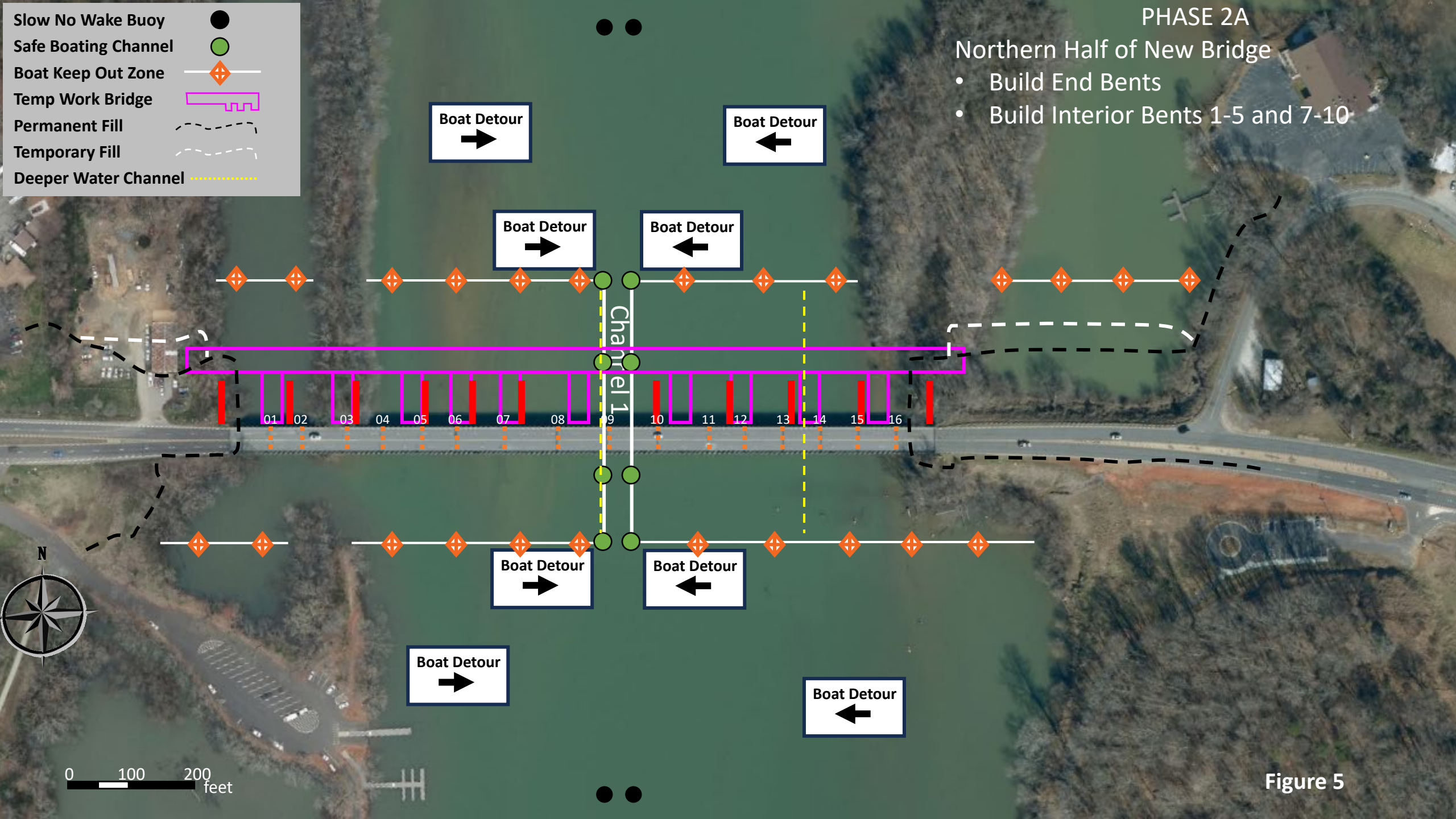
0
100
200
feet

Figure 4


Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 2A
Northern Half of New Bridge
• Build End Bents
• Build Interior Bents 1-5 and 7-10
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
01
02
03
04
05
06
07
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09
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12
13
14
15
16
Boat Detour
Boat Detour
Boat Detour
Boat Detour
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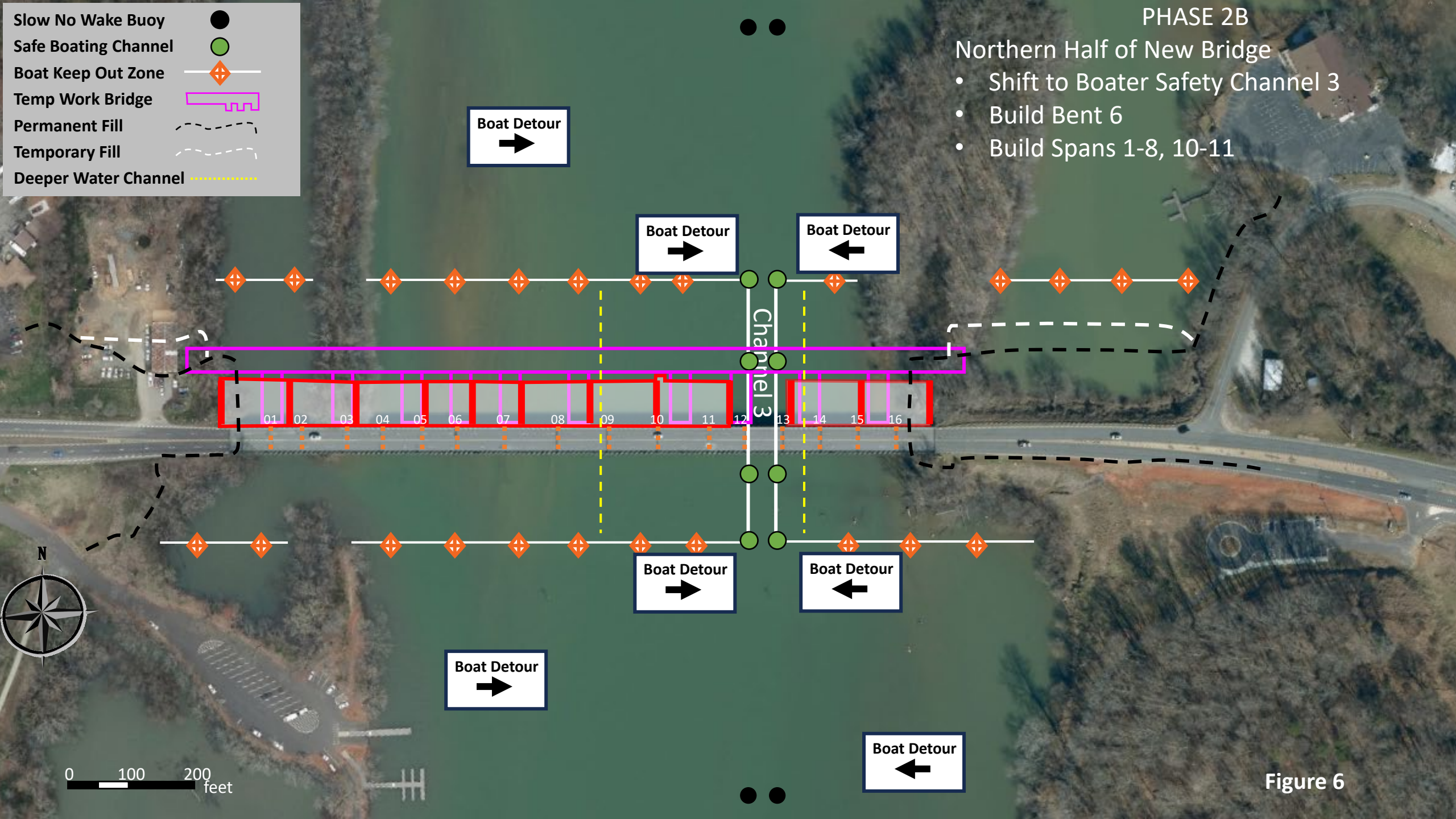
feet

Figure 5


Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 2B
Northern Half of New Bridge
• Shift to Boater Safety Channel 3
• Build Bent 6
• Build Spans 1-8, 10-11
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 3
01
02
03
04
05
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07
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11
12
13
14
15
16
N
0
100
200
feet

Figure 6

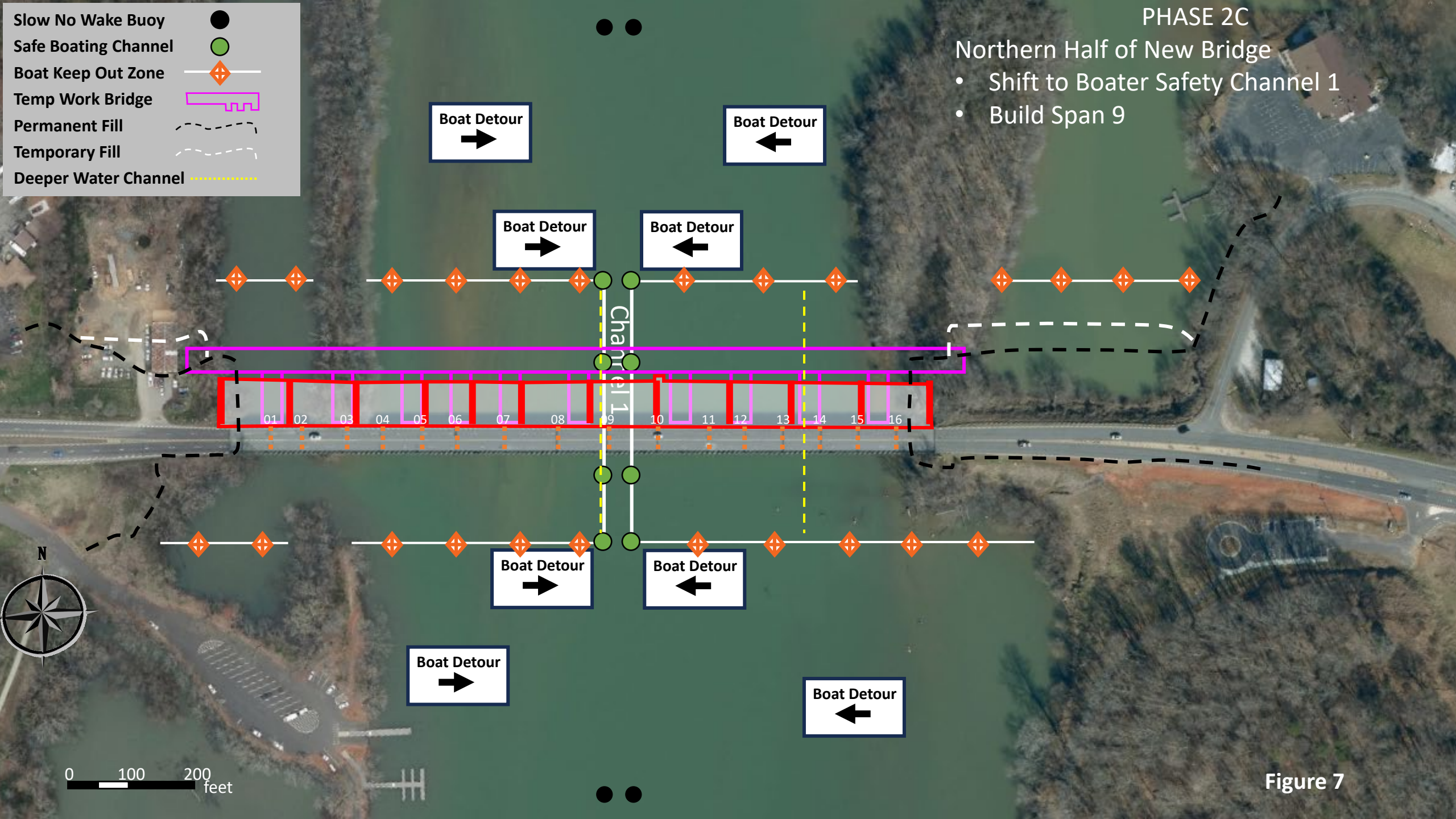
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 2C
Northern Half of New Bridge
• Shift to Boater Safety Channel 1
• Build Span 9
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
01
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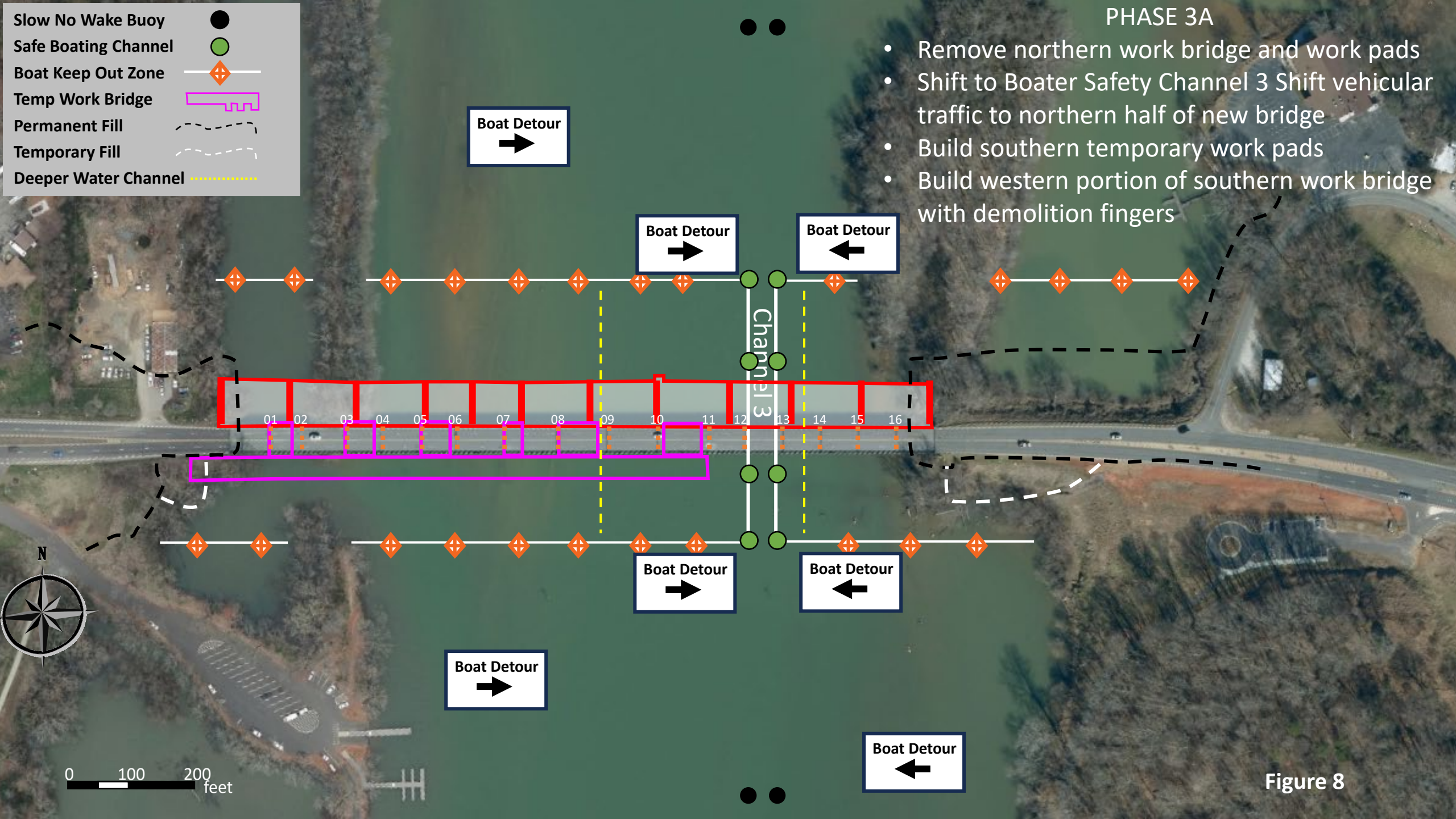
Figure 7


Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 3A
• Remove northern work bridge and work pads
• Shift to Boater Safety Channel 3 Shift vehicular traffic to northern half of new bridge
• Build southern temporary work pads
• Build western portion of southern work bridge with demolition fingers
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 3
01
02
03
04
05
06
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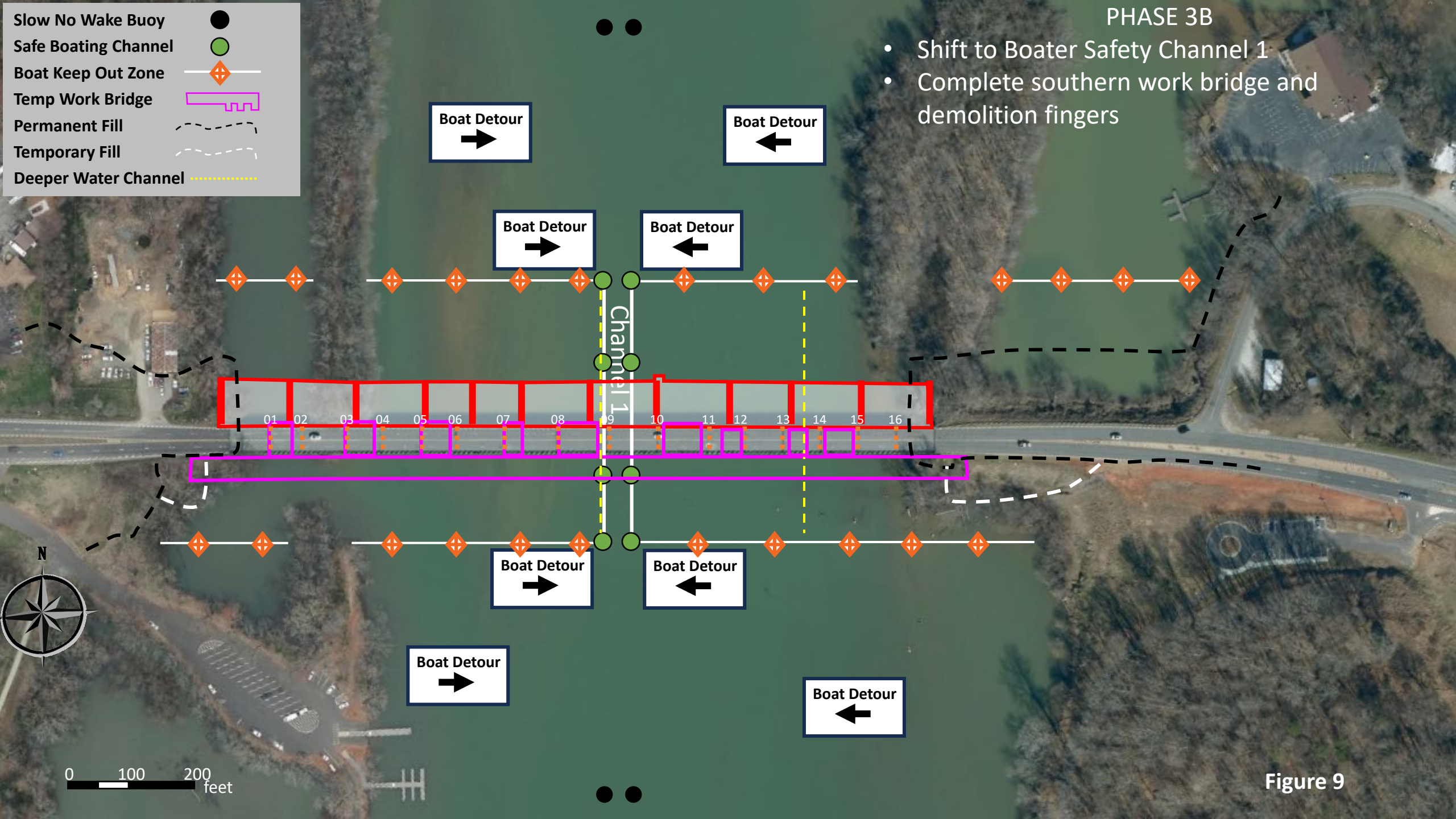
08
09
10
11
12
13
14
15
16
N
0
100
200
feet

Figure 8


PHASE 3B
• Shift to Boater Safety Channel 1
• Complete southern work bridge and demolition fingers
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
01
02
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N
0
100
200
feet

Figure 9

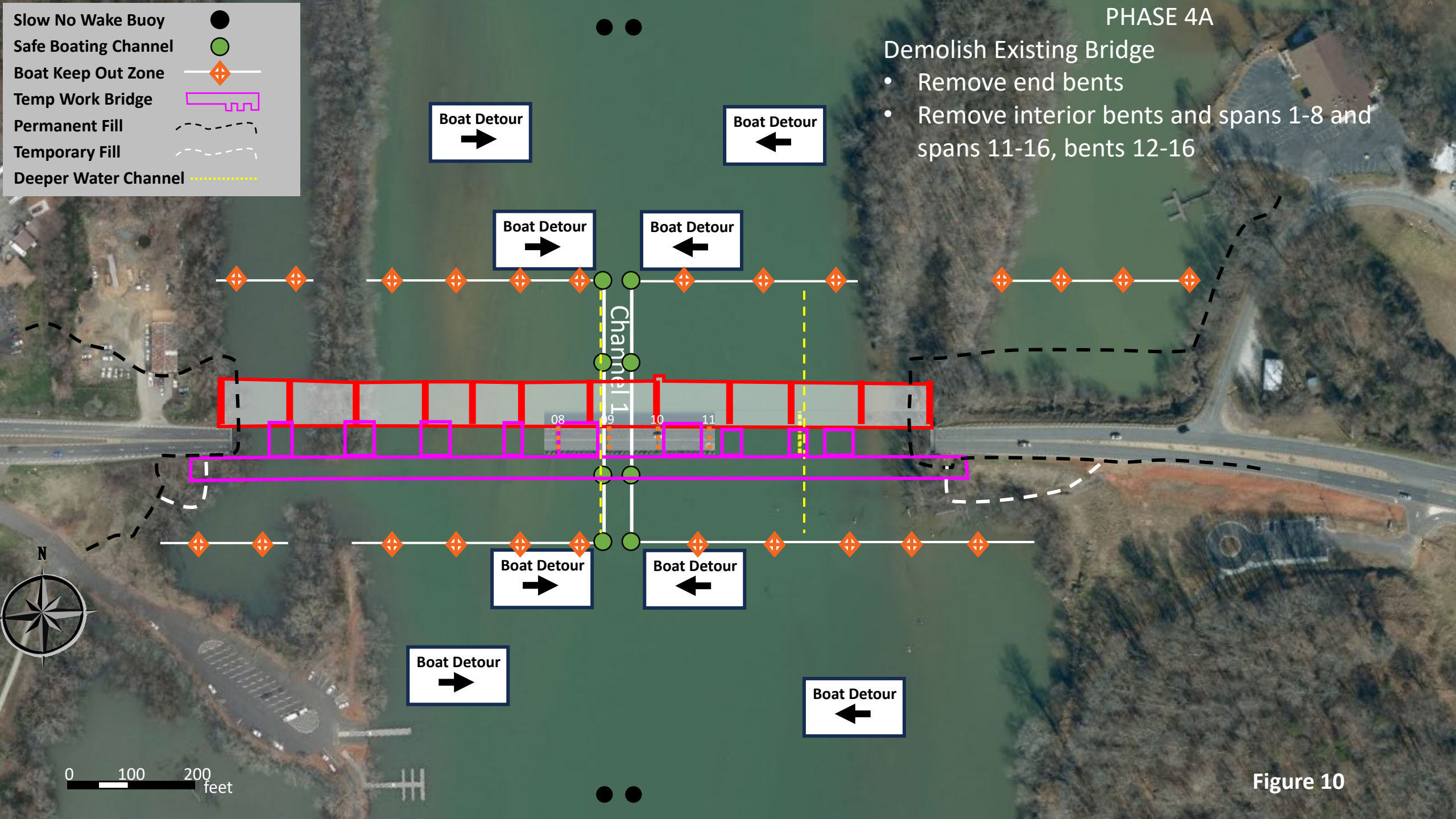

Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 4A
Demolish Existing Bridge
• Remove end bents
• Remove interior bents and spans 1-8 and spans 11-16, bents 12-16
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
08
09
10
11
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 10

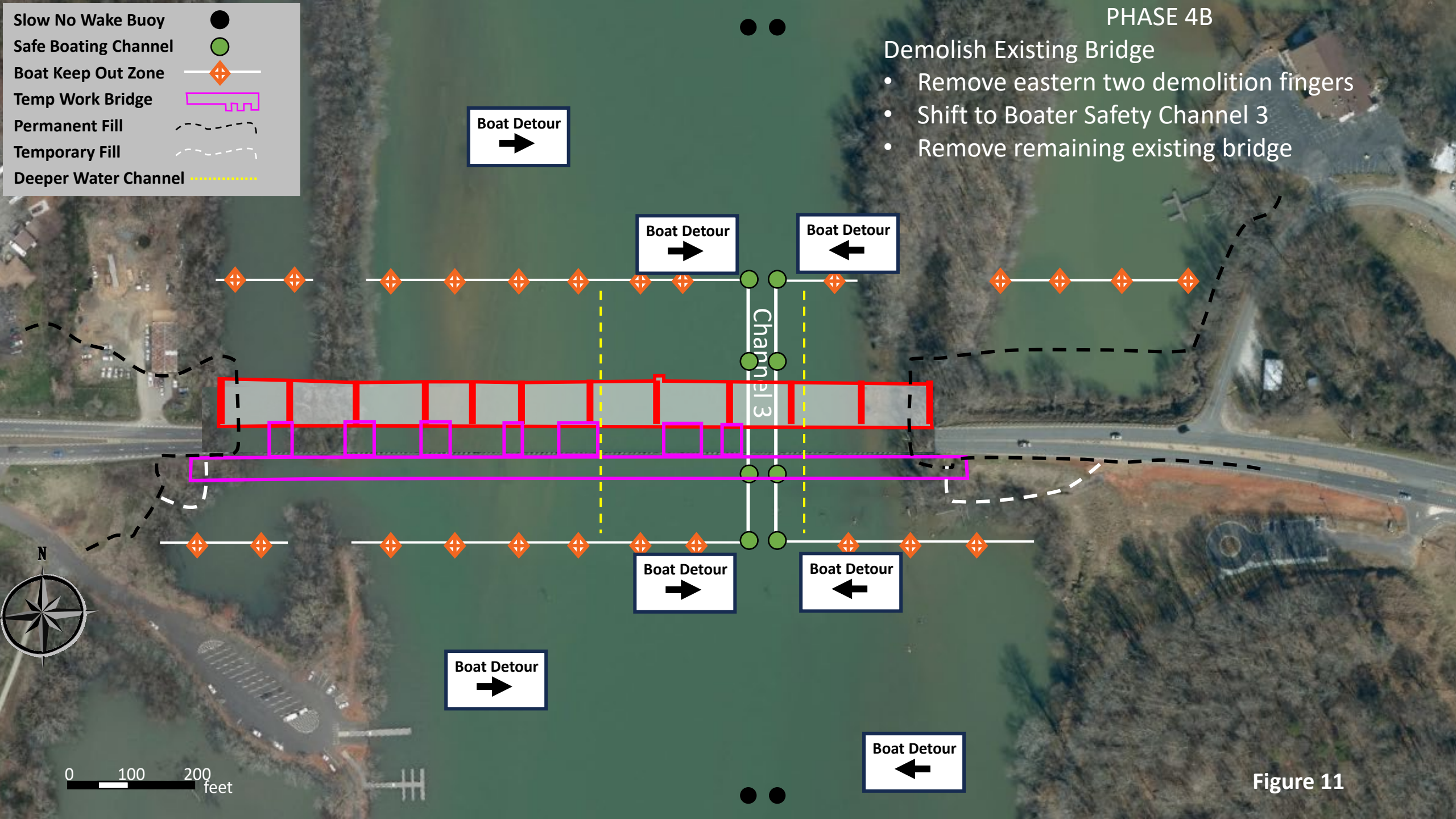

Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 4B
Demolish Existing Bridge
• Remove eastern two demolition fingers
• Shift to Boater Safety Channel 3
• Remove remaining existing bridge
Boat Detour
Boat Detour
Boat Detour
Channel 3
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 11

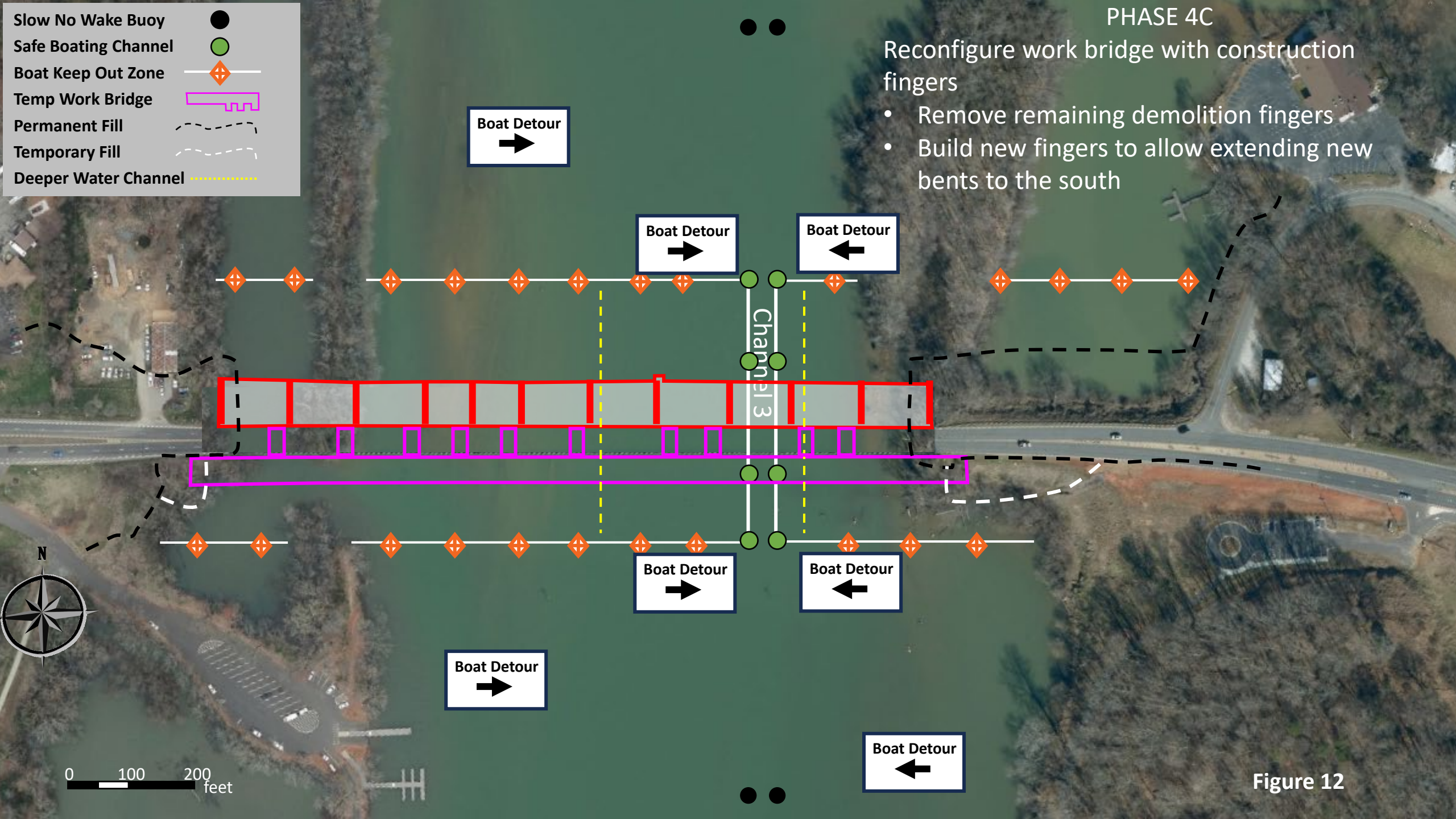

Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 4C
Reconfigure work bridge with construction fingers
• Remove remaining demolition fingers
• Build new fingers to allow extending new bents to the south
Boat Detour
Boat Detour
Boat Detour
Channel 3
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 12

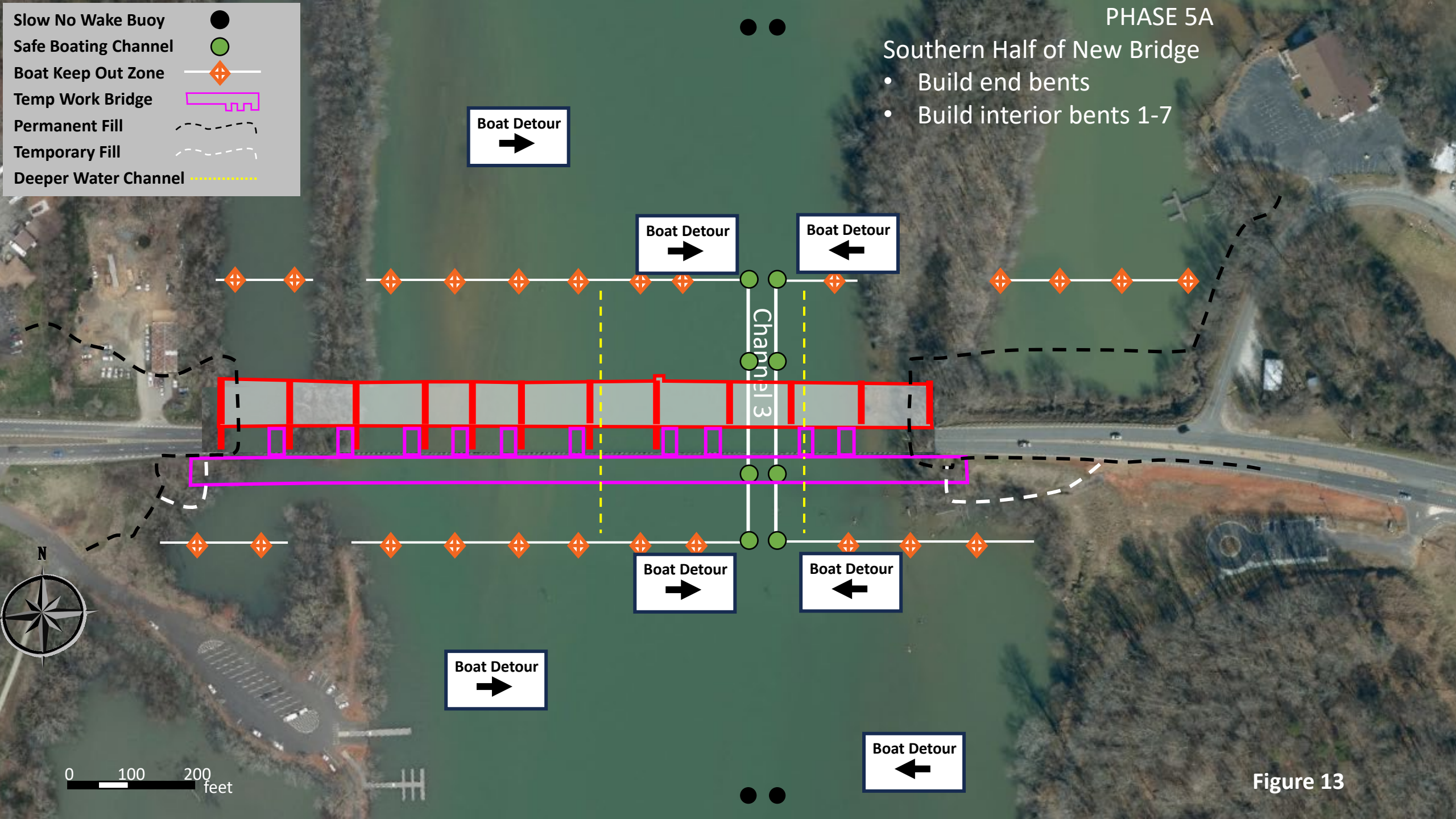

Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 5A
Southern Half of New Bridge
• Build end bents
• Build interior bents 1-7
Boat Detour
Boat Detour
Boat Detour
Channel 3
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 13

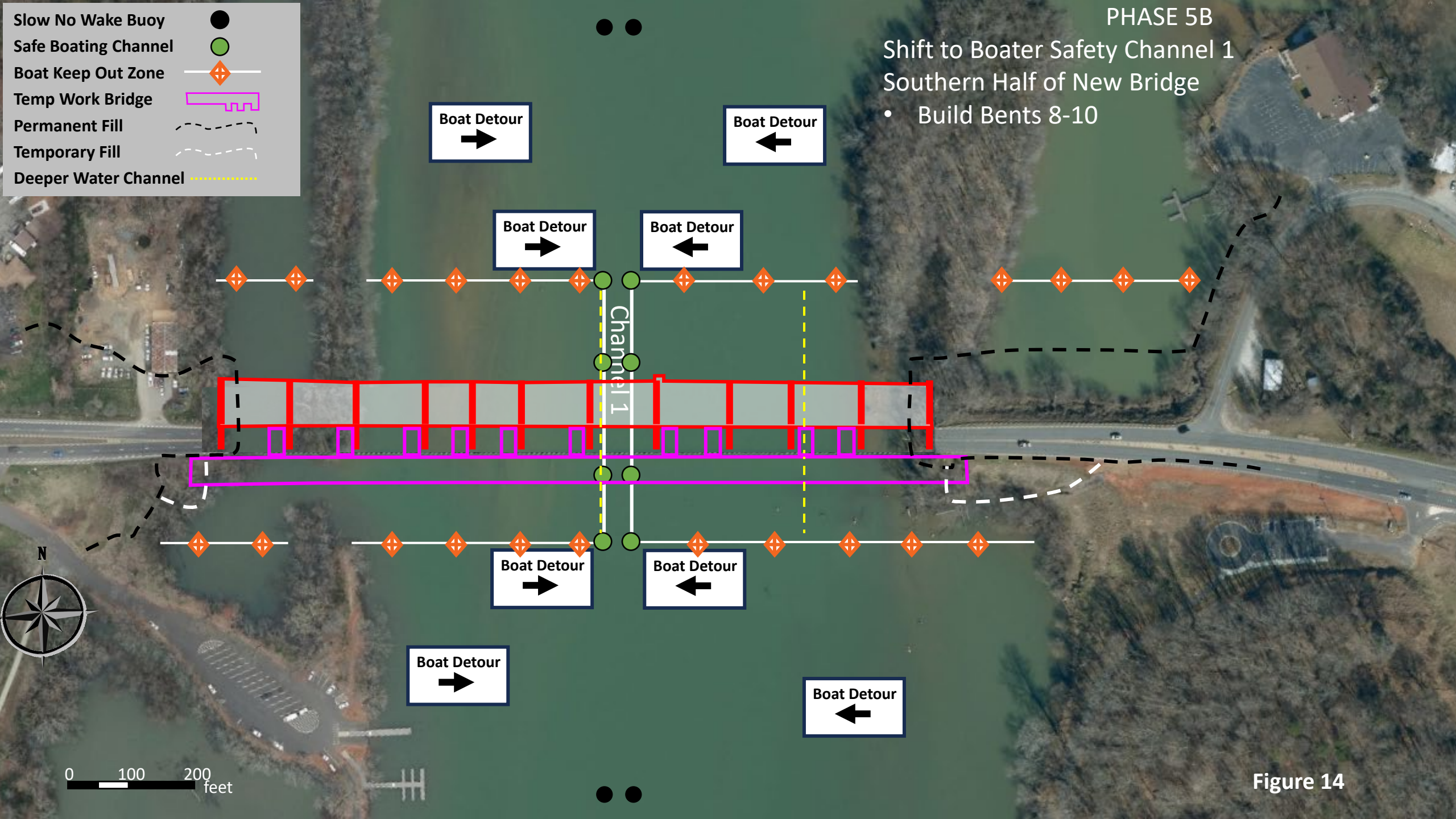

Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 5B
Shift to Boater Safety Channel 1
Southern Half of New Bridge
• Build Bents 8-10
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 14

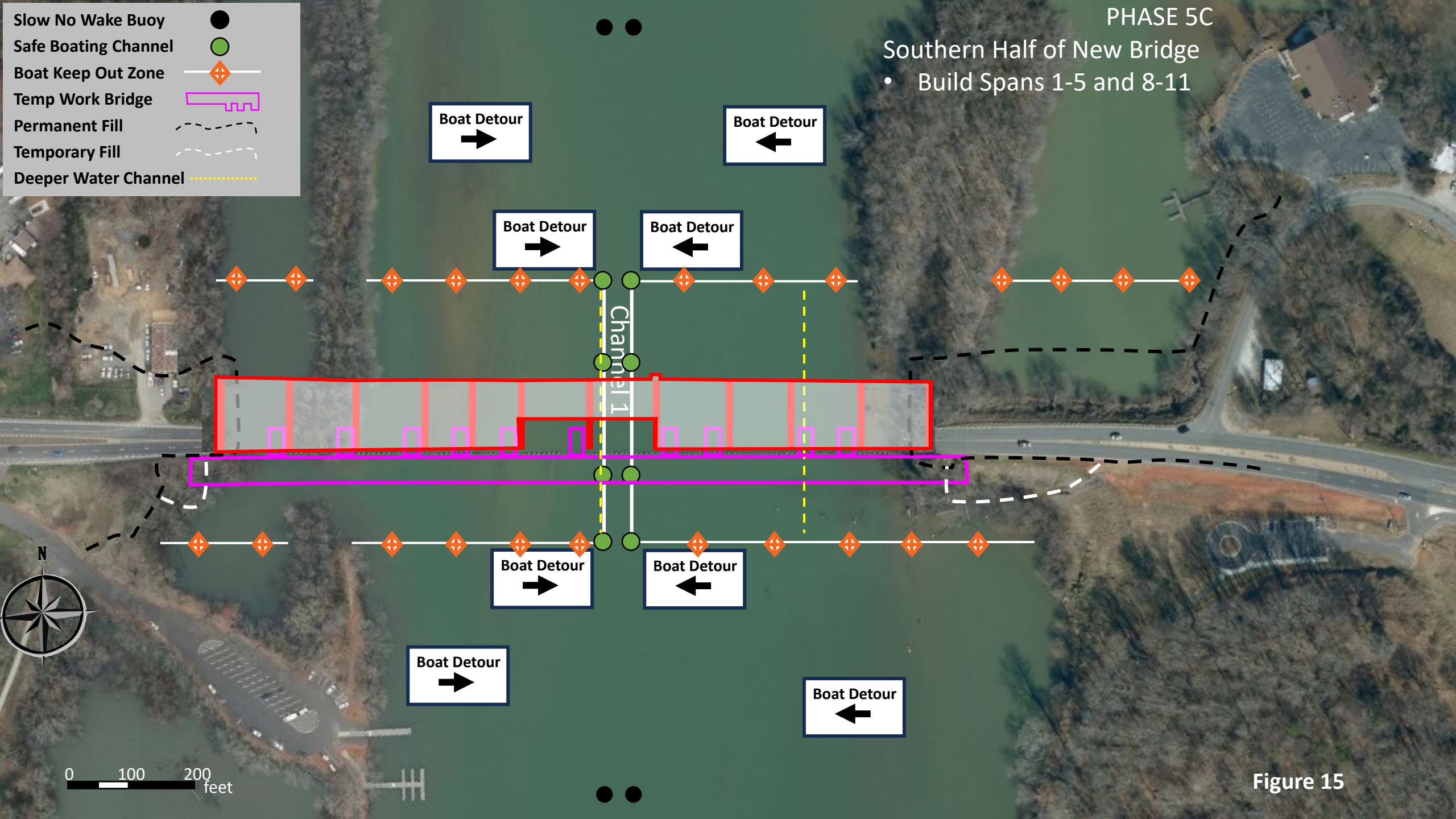

PHASE 5C
Southern Half of New Bridge
• Build Spans 1-5 and 8-11
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 15

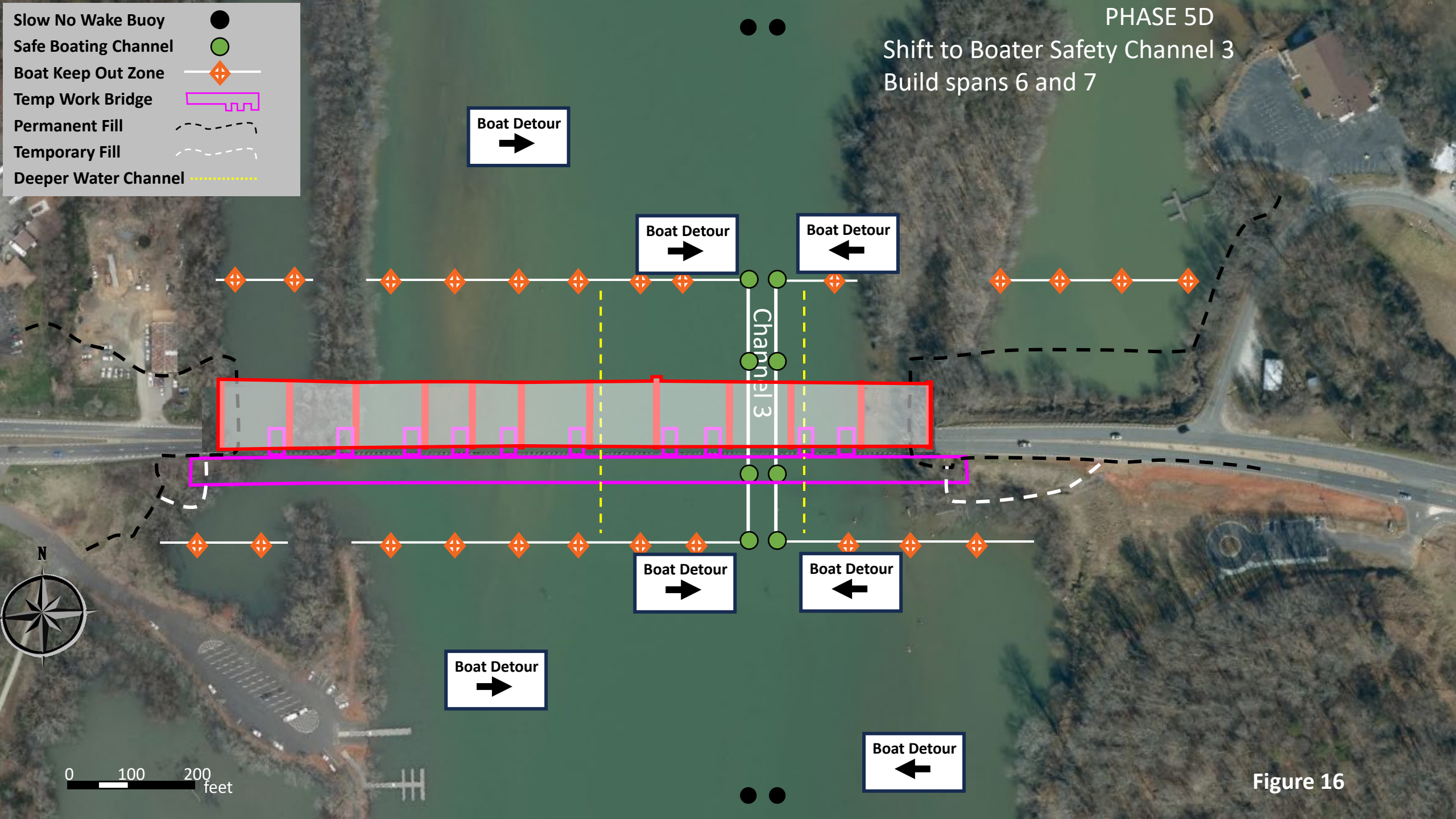

PHASE 5D
Shift to Boater Safety Channel 3
Build spans 6 and 7
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Channel 3
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 16

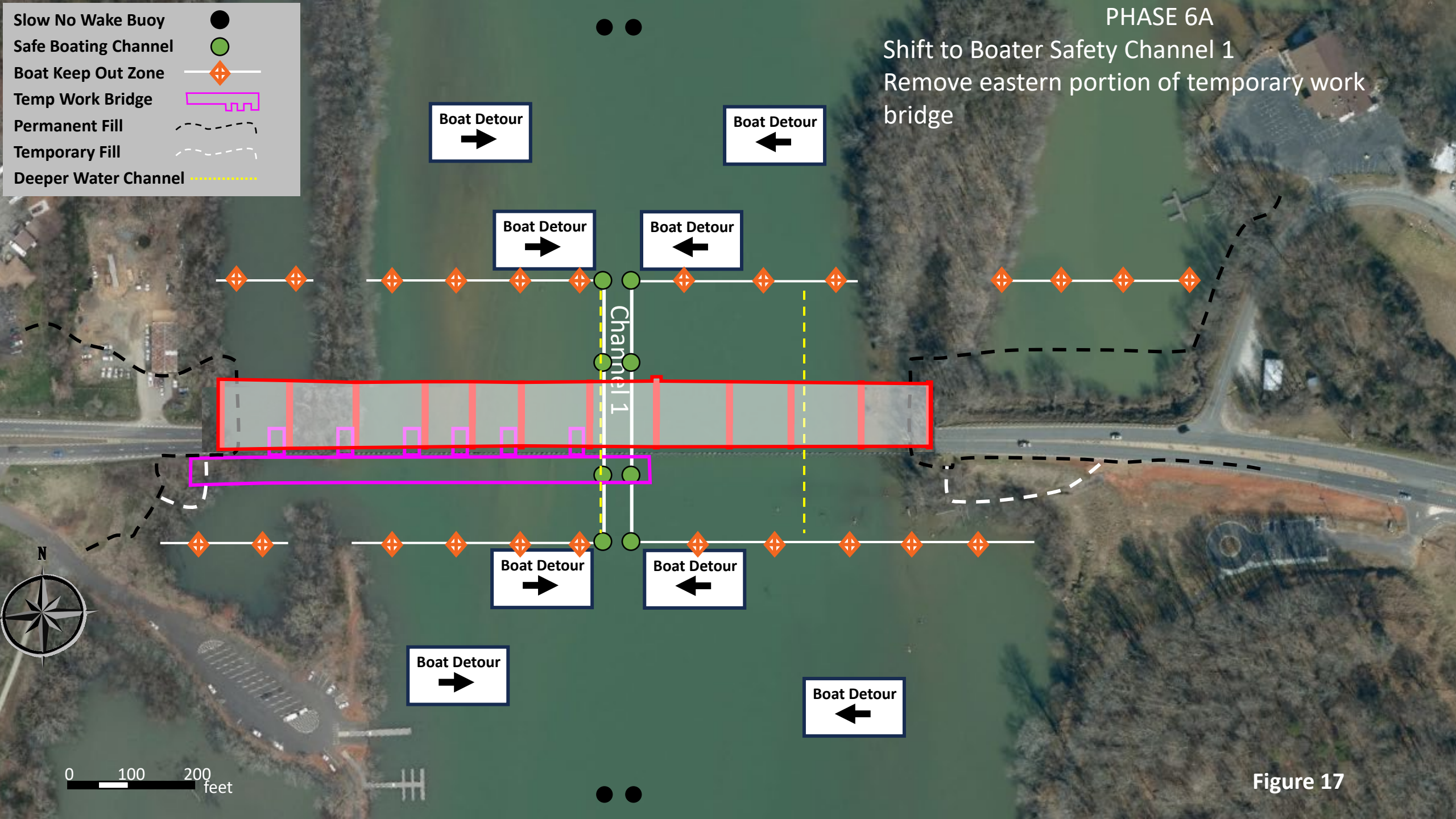

PHASE 6A
Shift to Boater Safety Channel 1
Remove eastern portion of temporary work bridge
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Boat Detour
Channel 1
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 17

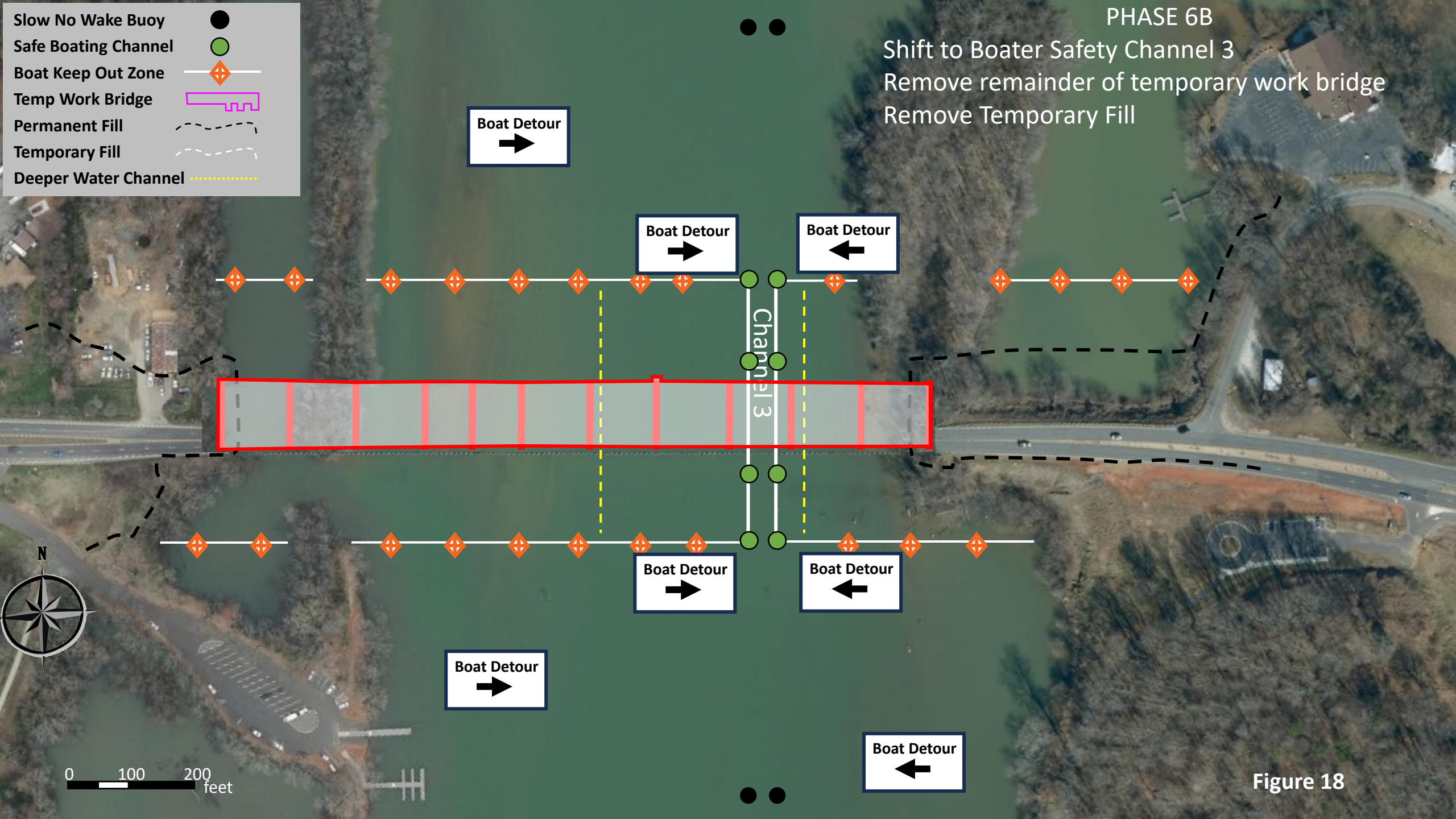

PHASE 6B
Shift to Boater Safety Channel 3
Remove remainder of temporary work bridge
Remove Temporary Fill
Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
Boat Detour
Boat Detour
Boat Detour
Channel 3
Boat Detour
Boat Detour
Boat Detour
Boat Detour
N
0
100
200
feet

Figure 18

Slow No Wake Buoy
Safe Boating Channel
Boat Keep Out Zone
Temp Work Bridge
Permanent Fill
Temporary Fill
Deeper Water Channel
PHASE 7
Remove Boater Safety Zone and restore normal boating on lake
N
0
100
200
feet

Figure 19

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT
WILMINGTON REGULATORY OFFICE
69 DARLINGTON AVENUE
WILMINGTON NORTH CAROLINA 28403

November 4, 2024

Regulatory Program/Division
SAW-2019-00027

Sent Via email: maturchy@ncdot.gov

North Carolina Department of Transportation
Mr. Michael Turchy
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Mr. Turchy:

This letter is in response to your request to the Wilmington District Regulatory Division, WRDA / Transportation Branch, for a preliminary jurisdictional determination (PJD). The US 74/US 29 bridge replacement project (TIP B6051/U6143) is located along US 74/US 29 starting at the intersection of US74/US 29 and East Catawba Street, crossing over the Catawba River/Lake Wylie and terminating near the intersection of US 74/US 29 and Moores Chapel Loop in Belmont, Gaston and Mecklenburg Counties, North Carolina. Latitude 35.294350 and Longitude -81.180210. This project has been assigned the file number SAW-2019-00027. This file number should be referenced in all correspondence concerning this project.

Based on our review of the information you furnished, and other information available to our office, we have preliminarily determined the above-referenced area may contain approximately 569 lf of stream channel, 0.70 acres of waters and 0.21 acres of open water acres, which are waters of the United States under the U.S. Army Corps of Engineers (Corps) regulatory jurisdiction. These waters are identified in the enclosed site maps. This determination was made in accordance with the Corps regulatory authority pursuant to Section 404 of the Clean Water Act, and based upon criteria contained in the 1987 Corps of Engineers Wetland Delineation Manual and the Eastern Mountains and Piedmont regional supplement.

Section 404 of the Clean Water Act requires a Department of the Army (DA) permit be obtained prior to the discharge of dredged or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 requires a DA permit be obtained for any work in, on, over or under navigable waters of the United States.

For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made based on a preliminary

jurisdictional determination will treat all waters including wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved jurisdictional determination, which is an appealable action, by contacting the Corps district for further instructions.

This determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the review area identified in this request. The determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

You are cautioned that work performed in areas which may be waters of the United States, as indicated in the preliminary JD, without a Department of the Army permit could subject you to enforcement action.

If you have any questions concerning this correspondence, please contact Crystal Amschler, WRDA Project Manager of the WRDA at 828-526-6013, by mail at the above address, or by email at crystal.c.amschler@usace.army.mil. Please take a moment to complete our customer satisfaction survey located at https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

M. Scott Jones, PWS
WRDA / Transportation Branch Chief
USACE - Wilmington District

Enclosures

U.S. Army Corps of Engineers (USACE)

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0024 Expires 2024-04-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any resulting jurisdictional determination (JD), which may be made available to the public on the District's website and/or on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary; however, if information is not provided, the request for a JD cannot be evaluated nor can a PJD be issued.

The Agency Disclosure Notice (ADN)

The public reporting burden for this collection of information, 0710-0024, is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

SECTION I - BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 2024-05-18

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:
Bill Barrett
NCDOT-EAU
1598 Mail Service Center
Raleigh, NC 27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION AND BACKGROUND INFORMATION:
(*USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES*)

State: North Carolina County/Parish/Borough: Gaston, Mecklenburg City: Belmont

Center coordinates of site (*lat/long in degree decimal format*): Latitude: 35.244724 ° Longitude: -81.00698 °

Universal Transverse Mercator:

Name of nearest waterbody: Catawba River

E. REVIEW PERFORMED FOR SITE EVALUATION (*CHECK ALL THAT APPLY*):

☐ Office (*Desk*) Determination. Date:

☐ Field Determination

Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)
	See attached list					

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD or no JD whatsoever, which do not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the USACE has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD or reliance on no JD whatsoever; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of USACE permit authorization based on a PJD or no JD whatsoever constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the USACE will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

F. SUPPORTING DATA. Data reviewed for PJD (*check all that apply)*
Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- [x] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:

  Map: Vicinity, Topographic, NRCS Soil Survey, Aerial

- [x] Data sheets prepared/submitted by or on behalf of the PJD requestor.
- [ ] Office concurs with data sheets/delineation report.
- [ ] Office does not concur with data sheets/delineation report.

  Rationale: _____

- [ ] Data sheets prepared by the USACE:

- [ ] Corps navigable waters' study:

- [ ] U.S. Geological Survey Hydrologic Atlas:

☐ USGS NHD data.

☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:

Belmont, NC 1:24000

☒ USDA Natural Resources Conservation Service Soil Survey.

Citation: _____

☐ National Wetlands Inventory map(s).

Cite Name: _____

☐ State/Local Wetland Inventory map(s):

☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is: _____. (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (*Name & Date*): _____

or ☐ Other (*Name & Date*): _____

☐ Previous determination(s). File no. and date of response letter:

☐ Other information (*please specify*):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the USACE and should not be relied upon for later jurisdictional determinations.

Name of Regulatory Staff Member Completing PJD	Date	Signature of Regulatory Staff Member Completing PJD
M. Scott Jones, Chief CESAW-RG-D	04 NOV 2024	M. Scott Jones
Name of Person Requesting PJD	**Date**	**Signatureof Person Requesting PJD *(REQUIRED, unless obtaining the Signature is Impracticable***
William A. Barrett	9/17/2024	William A. Barrett

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
SC	NORTH CAROLINA	R3	DEPRESS	Linear	459	FOOT	DELINEATE	35.24598178	-81.01419261	Catawba
SD	NORTH CAROLINA	R3	DEPRESS	Linear	110	FOOT	DELINEATE	35.24570970	-81.01436352	Catawba
WC	NORTH CAROLINA	PFO1	DEPRESS	Area	0.27	ACRE	DELINEATE	35.24550320	-81.01376030	Catawba
WD	NORTH CAROLINA	PFO1	DEPRESS	Area	0.19	ACRE	DELINEATE	35.24529950	-81.01428730	Catawba
WE	NORTH CAROLINA	PFO	DEPRESS	Area	0.1	ACRE	DELINEATE	35.24618230	-81.00546570	Catawba
CATAWBA RIVER	NORTH CAROLINA	R4	RIVERINE	Area	0.21	ACRE	DELINEATE	35.33035700	-81.13520000	Catawba

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Michael Turchy, North Carolina Department of Transportation	File Number: SAW-2019-00027	Date: 11/4/2024

Attached is:		See Section below
☐	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
☐	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
☐	PERMIT DENIAL WITHOUT PREJUDICE	C
☐	PERMIT DENIAL WITH PREJUDICE	D
☐	APPROVED JURISDICTIONAL DETERMINATION	E
☒	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable
You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial
You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable
You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact: District Engineer, Wilmington Regulatory Division Attn: Crystal Amschler Wilmington District U.S. Army Corps of Engineers 151 Patton Ave Rm 208 Asheville, NC 28801	If you have questions regarding the appeal process, or to submit your request for appeal, you may contact: Krista Sabin Regulatory Administrative Appeal Review Officer U.S. Army Corps of Engineers South Atlantic 60 Forsyth Street SW Room 9M 15 Atlanta, Georgia 30303-8801 Phone: 904-314-9631 Email: Krista.D.Sabin@usace.army.mil

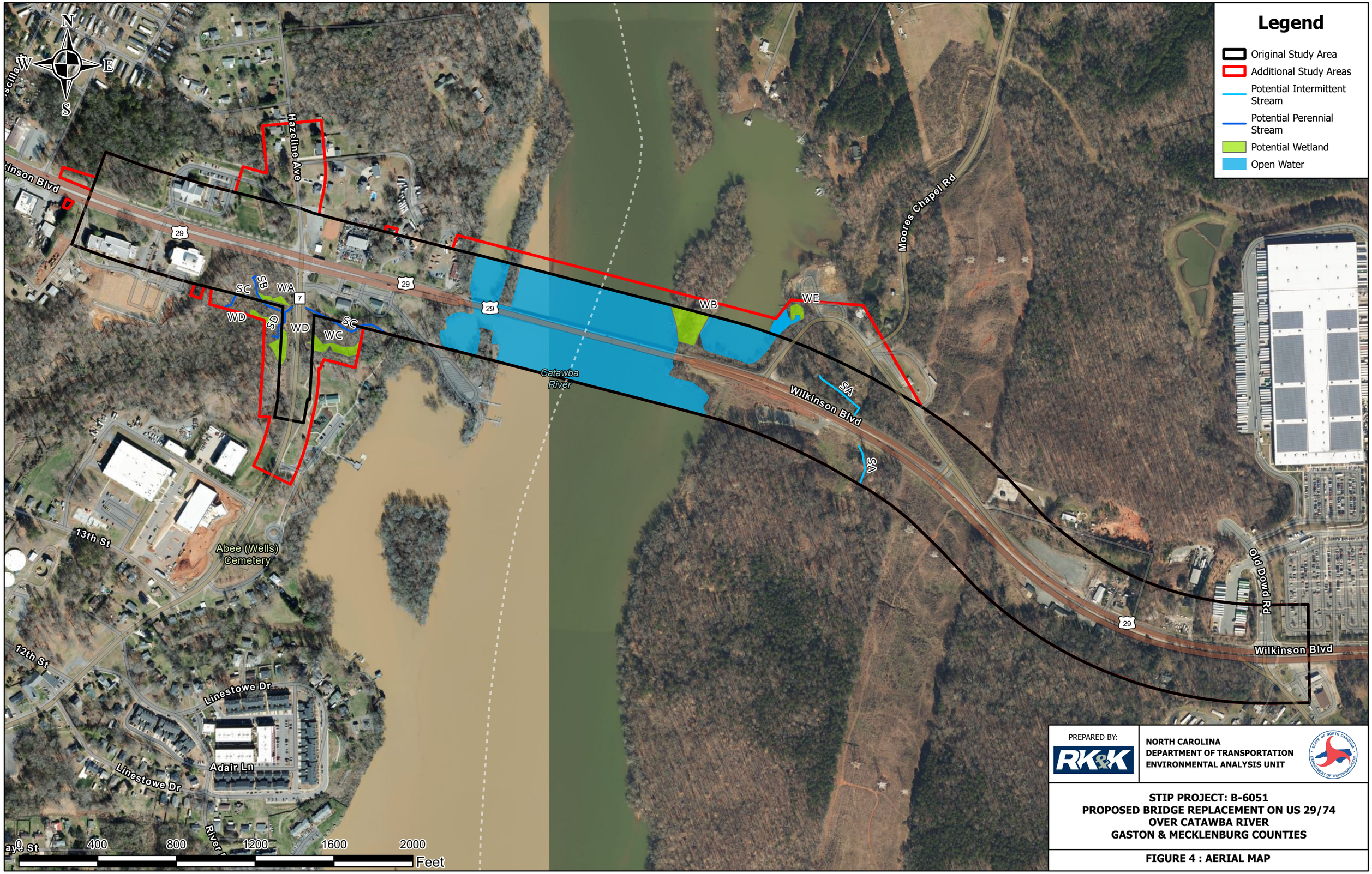
SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:


Legend
Original Study Area
Additional Study Areas
Potential Intermittent Stream
Potential Perennial Stream
Potential Wetland
Open Water
N
S
E
W
Hazeline Ave
Moores Chapel Rd
Wilkinson Blvd
Old Dowd Rd
13th St
12th St
Linestowe Dr
Adair Ln
Abee (Wells) Cemetery
Catawba River
29
7
WA
WB
WC
WD
WE
SA
SB
SC
0
400
800
1200
1600
2000
Feet
PREPARED BY:
RK&K
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
STIP PROJECT: B-6051
PROPOSED BRIDGE REPLACEMENT ON US 29/74
OVER CATAWBA RIVER
GASTON & MECKLENBURG COUNTIES
FIGURE 4 : AERIAL MAP

Docusign Envelope ID: 64140B15-3DC2-4139-8167-12F43B7AFA33

JOSH STEIN
Governor
D. REID WILSON
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

January 22, 2026
Gaston and Mecklenburg Counties
NCDWR Project No. 20240723 V2
TIP#B-6051 and U-6143
WBS Element No. 48708.1.1 and 48326.1.1

APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS

Ms. Erin Cheely
NCDOT
1598 Mail Service Center
Raleigh, NC 27699-1598
EKCheely@NCDOT.gov

Subject: Approval of Renewal to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for Proposed replacement of Bridge No. 91 (B-6051) on US 29/74 (Wilkinson Boulevard) over Catawba River (Lake Wylie) on the border of Gaston County (NCDOT Division 12) and Mecklenburg County (NCDOT Division 10) and to improve the intersection (U-6143) of US 74 (Wilkinson Boulevard) and NC 7 (Catawba Street) in Belmont, NC.
NCDWR Project No. 20240723, TIP No. B-6051 and U-6143, WBS No. 48708.1.1 and 48326.1.1

Dear Ms. Cheely

Attached hereto is a copy of Certification No. WQC008676 issued to The NCDOT dated January 22, 2026.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division, and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

This letter completes the review of the Division under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Please contact Mary Plummer at 704-235-2193 or Mary.Plummer@deq.nc.gov if you have any questions or concerns.

Sincerely,

Signed by:
Faith Hardin
3185423002EA45E...
Richard E. Rogers, Jr., Director
Division of Water Resources

Electronic copy only distribution:
Crystal Amschler, US Army Corps of Engineers, Asheville Field Office
Steve Brumagin, US Army Corps of Engineers, Charlotte Field Office
Holland Youngman, US Fish and Wildlife Service
David McHenry, NC Wildlife Resources Commission

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Approval of Renewal to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes NCDOT to impact 655 linear feet of streams, .373 acres of jurisdictional wetlands, 6.25 acres of open water, and 31,961 square feet in the Catawba River Buffer in Gaston and Mecklenburg County. The project shall be constructed pursuant to your application dated January 21, 2026. The authorized impacts are as described below:

Stream Impacts (Linear Feet) in the Catawba River Basin.
B-6051 & U-6143 DWR Project No. 20240723

Site	Perm. Fill in Perennial Stream			Perm. Fill in Intermittent Stream	Temp. Fill in Perennial Stream		Temp. Fill in Intermittent Stream	Total Stream Impacts	Stream Impacts Requiring Mitigation
	Bank Stabilization	Roadway Fill	Culvert		Bank Stabilization	Roadway Fill			
1-1A	42	-	-	-	-	-	-	42	-
2-1B	-	-	-	-	30	-	-	30	-
3-2A	-	-	70	-	-	-	-	70	70
4-2B	101	-	-	-	-	-	-	101	-
5-2C	-	-	-	-	18	-	-	18	-
6-3A	-	109	-	-	-	-	-	109	109
7-3B	-	-	-	-	-	7	-	7	-
8-7A	-	-	-	261	-	-	-	261	261
9-7B	-	-	-	-	-	-	17	17	-
Totals	**143**	**109**	**70**	**261**	**48**	**7**	**17**	**655**	**440**
	322				**55**				
	583				**72**				

Total Stream Impacts for Project: 655 Linear Feet.

Catawba Riparian Buffer Impacts (Square Feet).

Site	Zone 1	Minus Wetlands in Zone 1	=Zone 1 Buffer (Not Wetlands)	Zone 1 Buffer Mitigation Required (2:1 Ratio)	Zone 2	Minus Wetlands in Zone 2	=Zone 2 Buffers (Not Wetlands)	Zone 2 Buffer Mitigation Required (1.5:1 Ratio)	Total Buffer Mitigation
1-5A	1,735	-	1,735	-	1,963	-	1,963	-	-
2-5B	13,773	-	13,773	27,546	4,304	-	4,304	6,456	**34,002**
3-5C	3,826	-	3,826	-	-	-	-	-	-
4-6A	5,962	74	5,888	11,776	398	-	398	597	**12,373**
Totals	**25,296**	**74**	**25,222**	**39,322**	**6,665**	**-**	**6,665**	**7,053**	**46,375**

Total Riparian Buffer Impacts for Project: 31,961 Square Feet.

Wetland Impacts (Acres) in the Catawba River Basin.
B-6051 & U-6143 DWR Project No. 20240723

Site	Wetland Site	Permanent Fill			Temporary Fill		Total Wetland Impacts	Wetland Impacts Requiring Mitigation
		Roadway Fill	Bridge	Mechanized Clearing	Trestle	Workpad		
1-2A	WA	.016	-	-	-	-	.016	.016
2-2B	WA	-	-	.007	-	-	.007	.007
3-3A	WD	.098	-	-	-	-	.098	.098
4-3B	WD	-	-	.031	-	-	.031	.031
5-4A	WC	.010	-	-	-	-	.010	.010
6-4B	WC	-	-	.018	-	-	.018	.018
7-5A	WB	-	.071	-	-	-	.071	.071
8-5B	WB	-	-	.029	-	-	.029	.029
9-5C	WB	-	-	-	.069	-	.069	-
10-5D	WB	-	-	-	-	.015	.015	-
11-6A	WE	.003	-	-	-	-	.003	.003
12-6B	WE	-	-	.006	-	-	.006	.006
Totals		**.127**	**.071**	**.091**	**.069**	**.015**	**.373**	**.289**
		.289			**.084**			

Total Wetland Impacts for Project: .373 Acres.

Open Water (Lake/River) Impacts in the Catawba River Basin.

Site	Permanent Fill				Temporary Fill						Totals
	Bridge	Culvert	Roadway Fill	Bank Stabilization	Workpad	Bridge	Trestle	Culvert	Bank Stabilization	Roadway Fill	
1-5A	-	-	-	-	.02	-	-	-	-	-	.02
2-5B	.08	-	-	-	-	-	-	-	-	-	.08
3-5C	-	-	-	-	-	.06	-	-	-	-	.06
4-5D	-	-	-	-	-	-	5.29	-	-	-	5.29
5-5E	-	.01	-	-	-	-	-	-	-	-	.01
6-5F	-	-	-	-	-	-	-	.01	-	-	.01
7-5G	-	-	.43	-	-	-	-	-	-	-	.43
8-5H	-	-	-	-	.31	-	-	-	-	-	.31
9-6A	-	-	-	.01	-	-	-	-	-	-	.01
10-6B	-	-	-	-	-	-	-	-	.01	-	.01
11-6C	-	-	.01	-	-	-	-	-	-	-	.01
12-6D	-	-	-	-	-	-	-	-	-	.01	.01
Totals	**.08**	**.01**	**.44**	**.01**	**.33**	**.06**	**5.29**	**.01**	**.01**	**.01**	**6.25**
	.54				**5.71**						

Total Open Water Impacts for Project: 6.25 Acres.

The application provides adequate assurance that the discharge of fill material into the waters of the Catawba River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated and received January 21, 2026. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. Upon the presentation of proper credentials, the Division may inspect the property.

Condition(s) of Approval and Certification:

1. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. [15A NCAC 02B.0614]

2. Pursuant to 15A NCAC 2B.0614. sediment and erosion control devices shall not be placed in Zone 1 of any Catawba Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised, and that discharge is released as diffuse flow.

3. All stormwater runoffs shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 02B.0614]

4. Native riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0614] & [15A NCAC 02B.0506(b)(2)]

Condition(s) of Certification:

Project Specific Conditions

1. All the authorized activities and conditions associated with the original Water Quality Certification dated July 18, 2024 still apply except where superseded by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]

2. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)

3. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]

4. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.)

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before entering the stream. To meet the requirements of NCDOT's NPDES permit, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* for approved measures. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]

5. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWR first. [15A NCAC 02H.0506(b)(2)]

6. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)

7. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank, or during the removal of bents from an old bridge. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)

8. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water. [15A NCAC 02H .0506(b)(3)

9. Existing stream dimensions (including pattern and profile) are to be maintained above and below locations of each culvert. The structures shall be designed and installed to allow for fish and other wildlife movement as well as prevent headcutting of the stream. The applicant may be required to provide evidence that the equilibrium has been maintained if requested in writing by the NCDWR. [15A NCAC 02H.0506(b)(2)]

10. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams, shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]

11. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross sections as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]

12. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]

13. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]

14. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.

15. Wetland areas impacted by temporary clearing shall be stabilized and reseeded with native wetland seed. [15A NCAC 02H.0506(b)]

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16. Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted. This update shall be conducted two growing seasons after completion of the work and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if additional compensatory wetland mitigation is to be required.

17. Compensatory mitigation for 440 linear feet of impacts to streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated February 14, 2024, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.

18. Compensatory mitigation for impacts to 19,661 square feet of protected riparian buffers in Zone 1 and 4,702 square feet of protected riparian buffers in Zone 2 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP). Mitigation for unavoidable impacts to Catawba Riparian Buffers shall be provided in the Catawba River Basin and done in accordance with 15A NCAC .02B .0295**.** The DMS has indicated in a letter dated February 14, 2024, that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed June 14, 2016.

19. Compensatory mitigation for impacts to .289 acres of riverine wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated February 14, 2024, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.

General Conditions

1. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]

2. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]

3. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]

4. All work in or adjacent to stream waters shall be conducted per approved BMP measures from the most current version of NCDOTs Construction and Maintenance Activities manual. [15A NCAC 02H.0506(b)(3) and (c)(3)]

5. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

6. Stormwater shall be directed to vegetated buffer areas, grass-lined ditches or other means appropriate to the site for the purpose of pre-treating storm water runoff prior to discharging directly into streams. (15A NCAC 02B.0224 and .0225)

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7. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]

8. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S. or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]

9. The dimensions, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]

10. The use of rip-rap above the Normal High-Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]

11. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]

12. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]

13. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]

14. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]

15. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification, and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

16. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]

17. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

18. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]

19. Upon completion of the project (including any impacts at associated borrow or waste sites), an appointee shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

20. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02H.0506(b)(3) and (c)(3)]

21. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]

22. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface water standards [15A NCAC 02H.0506(b)(3) and (c)(3)]

    a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.

    b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.

    c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.

    d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

23. Where placement of sediment and erosion control devices in wetlands and/or waters is unavoidable, they shall be removed, and the natural grade restored upon completion of the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]

24. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506{b)(3) and (c)(3) and 15A NCAC 02B .0200]

25. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *NCDOT Sediment and Erosion Control Manual.*

26. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

27. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual.* Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

28. If sediment or other pollutants are found to be discharged from the stormwater outfalls, DWR may take enforcement action. NCDOT and DWR shall assess the damage to water quality standards and implement an appropriate action plan to address the impacts. The action plan shall provide an appropriate timeline for implementation as agreed upon by both DWR and NCDOT. This may require NCDOT to obtain a modification to its current 401 and 404 permits.

This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit. Please be aware that impacting waters without first applying for and securing the issuance of a

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401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of $25,000.00 per day for each violation.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of $25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within sixty (60) calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at http://www.ncoah.com/ or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

Dan Hirschman, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This the 22nd day of January 2026

DIVISION OF WATER RESOURCES

Signed by:
Faith Hardin
3185423902EA45E...
Richard E. Rogers, Jr., Director

WQC No. WQC008676

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JOSH STEIN
Governor
D. REID WILSON
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

NCDWR Project No.: _____ **County:** _____
Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion
Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date:_____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

Completed hard copies can be emailed to kristilynn.carpenter@ncdenr.gov or mailed to:
NCDEQ Transportation Permitting
1617 Mail Service Center
Raleigh NC 27699-1617

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ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

July 18, 2024
Gaston and Mecklenburg Counties
NCDWR Project No 20240723
TIP# B-6051 and U-6143
WBS# 48708.1.1 and 48326.1.1
Fed# 0029074

APPROVAL of 401 WATER QUALITY CERTIFICATION and CATAWBA BUFFER APPROVAL with ADDITIONAL CONDITIONS

Mr. Bill Barrett
NCDOT
1598 Mail Service Center
Raleigh, NC 27699-1598
WABarrett@NCDOT.gov

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Catawba Riparian Buffer Impacts with ADDITIONAL CONDITIONS for Proposed replacement of Bridge No. 91 (B-6051) on US 29/74 (Wilkinson Boulevard) over Catawba River (Lake Wylie) on the border of Gaston County (NCDOT Division 12) and Mecklenburg County (NCDOT Division 10) and to improve the intersection (U-6143) of US 74 (Wilkinson Boulevard) and NC 7 (Catawba Street) in Belmont, NC. NCDWR Project No. 20240723, TIP No. B-6051 and U-6143, WBS No. 48708.1.1 and 48326.1.1

Dear Mr. Barrett:

Attached hereto is a copy of Water Quality Certification No. 004135 issued to the NCDOT dated July 18, 2024.

This approval is for the purpose and design described in your application dated May 24, 2024. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations. The following impacts are hereby approved, provided that all of the Conditions listed below, and all of the conditions of the Catawba Riparian Buffer Rules are met. No other impacts are approved, including incidental impacts 15A NCAC 02B .0611(b)(2).

This letter completes the review of the Division under section 401 of the Clean Water Act, 15A NCAC 02H .0500, and the Catawba Riparian Buffer Rules as described in 15A NCAC 02B.0614. Please contact Mary Plummer at 704-235-2193 or Mary.Plummer@deq.nc.gov if you have any questions or concerns.

Sincerely,

DocuSigned by:
Susan Locklear
04351F033762414...

Richard E. Rogers Jr., Director
Division of Water Resources

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Electronic copy only distribution:
Crystal Amschler, US Army Corps of Engineers, Asheville Field Office
Steve Brumagin, US Army Corps of Engineers, Charlotte Field Office
Rebekah Reid, US Fish and Wildlife Service
David McHenry, NC Wildlife Resources Commission
Michael Turchy, NC Department of Transportation
File Copy

Individual 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Catawba Buffer Approval with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes NCDOT to impact 655 linear feet of streams, .373 acres of jurisdictional wetlands, 6.25 acres of open water, and 31,961 square feet in the Catawba River Buffer in Gaston and Mecklenburg County. The project shall be constructed pursuant to your application dated May 24, 2024. The authorized impacts are as described below:

Stream Impacts (Linear Feet) in the Catawba River Basin.

Site	Perm. Fill in Perennial Stream			Perm. Fill in Intermittent Stream	Temp. Fill in Perennial Stream		Temp. Fill in Intermittent Stream	Total Stream Impacts	Stream Impacts Requiring Mitigation
	Bank Stabilization	Roadway Fill	Culvert		Bank Stabilization	Roadway Fill			
1-1A	42	-	-	-	-	-	-	42	-
2-1B	-	-	-	-	30	-	-	30	-
3-2A	-	-	70	-	-	-	-	70	70
4-2B	101	-	-	-	-	-	-	101	-
5-2C	-	-	-	-	18	-	-	18	-
6-3A	-	109	-	-	-	-	-	109	109
7-3B	-	-	-	-	-	7	-	7	-
8-7A	-	-	-	261	-	-	-	261	261
9-7B	-	-	-	-	-	-	17	17	-
Totals	**143**	**109**	**70**	**261**	**48**	**7**	**17**	**655**	**440**
	322				**55**				
	583				**72**				

Total Stream Impacts for Project: 655 Linear Feet.

Catawba Riparian Buffer Impacts (Square Feet).

Site	Zone 1	Minus Wetlands in Zone 1	=Zone 1 Buffer (Not Wetlands)	Zone 1 Buffer Mitigation Required (2:1 Ratio)	Zone 2	Minus Wetlands in Zone 2	=Zone 2 Buffers (Not Wetlands)	Zone 2 Biffer Mitigation Required (1.5:1 Ratio)	Total Buffer Mitigation
1-5A	1,735	-	1,735	-	1,963	-	1,963	-	-
2-5B	13,773	-	13,773	27,546	4,304	-	4,304	6,456	**34,002**
3-5C	3,826	-	3,826	-	-	-	-	-	-
4-6A	5,962	74	5,888	11,776	398	-	398	597	**12,373**
Totals	**25,296**	**74**	**25,222**	**39,322**	**6,665**	**-**	**6,665**	**7,053**	**46,375**

Total Riparian Buffer Impacts for Project: 31,961 Square Feet.

Wetland Impacts (Acres) in the Catawba River Basin (Riverine).

Site	Wetland Site	Permanent Fill			Temporary Fill		Total Wetland Impacts	Wetland Impacts Requiring Mitigation
		Roadway Fill	Bridge	Mechanized Clearing	Trestle	Workpad		
1-2A	WA	.016	-	-	-	-	.016	.016
2-2B	WA	-	-	.007	-	-	.007	.007
3-3A	WD	.098	-	-	-	-	.098	.098
4-3B	WD	-	-	.031	-	-	.031	.031
5-4A	WC	.010	-	-	-	-	.010	.010
6-4B	WC	-	-	.018	-	-	.018	.018
7-5A	WB	-	.071	-	-	-	.071	.071
8-5B	WB	-	-	.029	-	-	.029	.029
9-5C	WB	-	-	-	.069	-	.069	-
10-5D	WB	-	-	-	-	.015	.015	-
11-6A	WE	.003	-	-	-	-	.003	.003
12-6B	WE	-	-	.006	-	-	.006	.006
Totals		**.127**	**.071**	**.091**	**.069**	**.015**	**.373**	**.289**
		.289			**.084**			

Total Wetland Impacts for Project: 0.373 Acres.

Open Water (Lake/River) Impacts in the Catawba River Basin.

Site	Permanent Fill				Temporary Fill						Totals
	Bridge	Culvert	Roadway Fill	Bank Stabilization	Workpad	Bridge	Trestle	Culvert	Bank Stabilization	Roadway Fill	
1-5A	-	-	-	-	.02	-	-	-	-	-	.02
2-5B	.08	-	-	-	-	-	-	-	-	-	.08
3-5C	-	-	-	-	-	.06	-	-	-	-	.06
4-5D	-	-	-	-	-	-	5.29	-	-	-	5.29
5-5E	-	.01	-	-	-	-	-	-	-	-	.01
6-5F	-	-	-	-	-	-	-	.01	-	-	.01
7-5G	-	-	.43	-	-	-	-	-	-	-	.43
8-5H	-	-	-	-	.31	-	-	-	-	-	.31
9-6A	-	-	-	.01	-	-	-	-	-	-	.01
10-6B	-	-	-	-	-	-	-	-	.01	-	.01
11-6C	-	-	.01	-	-	-	-	-	-	-	.01
12-6D	-	-	-	-	-	-	-	-	-	.01	.01
Totals	**.08**	**.01**	**.44**	**.01**	**.33**	**.06**	**5.29**	**.01**	**.01**	**.01**	**6.25**
	.54				**5.71**						

Total Open Water Impacts for Project: 6.25 Acres.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter and is thereby responsible for complying with all the conditions 15A NCAC 02B .0611(b)(2).

If you are unable to comply with any of the conditions below, you must notify the DWR Transportation Permitting Branch within 24 hours (or the next business day if a weekend or holiday) from the time the permittee becomes aware of the circumstances. The permittee shall report to the NC Division of Water Resources any noncompliance with the conditions of this Authorization Certificate and/or any violation of state regulated Catawba riparian buffer rules .0614. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the applicant became aware of the circumstances.

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If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 300 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification(s) and any additional conditions listed below.

Condition(s) of Approval and Certification:

1. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. [15A NCAC 02B.0614]

2. Pursuant to 15A NCAC 2B.0614. sediment and erosion control devices shall not be placed in Zone 1 of any Catawba Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised, and that discharge is released as diffuse flow.

3. All stormwater runoffs shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 02B.0614]

4. Native riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0614] & [15A NCAC 02B.0506(b)(2)]

Project Specific Conditions

1. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)

2. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]

3. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* for approved measures. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]

4. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWR first. [15A NCAC 02H.0506(b)(2)]

5. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)

6. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank, or during the removal of bents from an old bridge. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)

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7. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water. [15A NCAC 02H .0506(b)(3)

8. Existing stream dimensions (including pattern and profile) are to be maintained above and below locations of each culvert. The structures shall be designed and installed to allow for fish and other wildlife movement as well as prevent headcutting of the stream. The applicant may be required to provide evidence that the equilibrium has been maintained if requested in writing by the NCDWR. [15A NCAC 02H.0506(b)(2)]

9. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams, shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]

10. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross sections as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]

11. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]

12. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]

13. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.

14. Wetland areas impacted by temporary clearing shall be stabilized and reseeded with native wetland seed. [15A NCAC 02H.0506(b)]

15. Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted. This update shall be conducted two growing seasons after completion of the work and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if additional compensatory wetland mitigation is to be required.

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16. Compensatory mitigation for 440 linear feet of impacts to streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated February 14, 2024, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.

17. Compensatory mitigation for impacts to 19,661 square feet of protected riparian buffers in Zone 1 and 4,702 square feet of protected riparian buffers in Zone 2 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP). Mitigation for unavoidable impacts to Catawba Riparian Buffers shall be provided in the Catawba River Basin and done in accordance with 15A NCAC .02B .0295**.** The DMS has indicated in a letter dated February 14, 2024, that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed June 14, 2016.

18. Compensatory mitigation for impacts to .289 acres of riverine wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated February 14, 2024, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.

General Conditions

1. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]

2. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]

3. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]

4. All work in or adjacent to stream waters shall be conducted per approved BMP measures from the most current version of NCDOTs Construction and Maintenance Activities manual. [15A NCAC 02H.0506(b)(3) and (c)(3)]

5. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

6. Stormwater shall be directed to vegetated buffer areas, grass-lined ditches or other means appropriate to the site for the purpose of pre-treating storm water runoff prior to discharging directly into streams. (15A NCAC 02B.0224 and .0225)

7. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]

8. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S. or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]

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9. The dimensions, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]

10. The use of rip-rap above the Normal High-Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]

11. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]

12. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]

13. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]

14. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]

15. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification, and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

16. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]

17. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

18. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]

19. Upon completion of the project (including any impacts at associated borrow or waste sites), an appointee shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

20. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02H.0506(b)(3) and (c)(3)]

21. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]

22. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface water standards [15A NCAC 02H.0506(b)(3) and (c)(3)]

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a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.

b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.

c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.

d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

23. Where placement of sediment and erosion control devices in wetlands and/or waters is unavoidable, they shall be removed, and the natural grade restored upon completion of the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]

24. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506{b)(3) and (c)(3) and 15A NCAC 02B .0200]

25. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *NCDOT Sediment and Erosion Control Manual.*

26. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

27. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual.* Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

28. If sediment or other pollutants are found to be discharged from the stormwater outfalls, DWR may take enforcement action. NCDOT and DWR shall assess the damage to water quality standards and implement an appropriate action plan to address the impacts. The action plan shall provide an appropriate timeline for implementation as agreed upon by both DWR and NCDOT. This may require NCDOT to obtain a modification to its current 401 and 404 permits.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of $25,000.00 per day for each violation.

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This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within sixty (60) calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at http://www.ncoah.com/ or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This Authorization shall expire five (5) years from the date of this letter.
This letter completes the review of the Division under the Catawba Riparian Buffer Rules as described in 15A NCAC 02B.0614. Please contact Mary Plummer at Mary.Plummer@deq.nc.gov or 704-235-2193 if you have any questions or concerns.

This the 18th of July 2024

DIVISION OF WATER RESOURCES

DocuSigned by:
Susan Locklear
04351F033762414...

Richard E. Rogers Jr., Director

WQC No. 004135

Docusign Envelope ID: D08E428E-3159-46EA-96A6-F85C2572E928

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

NCDWR Project No.: _____ **County:** _____
Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion
Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date:_____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

Completed hard copies can be emailed to kristilynn.carpenter@deq.nc.gov or mailed to:
NCDEQ Transportation Permitting
1617 Mail Service Center
Raleigh NC 27699-1617

By: Karol P. Mack, Deputy General Counsel, Duke Energy
Return To: Duke Energy Carolinas, LLC
c/o Bambi M. Lohr (DEP-09A)
525 South Tryon Street
Charlotte, North Carolina 28202

Property No.: 007312
Land Unit: 0046551
Project No.: 007312-868949

BRIDGE PERMIT OVER LAKE WYLIE

STATE OF NORTH CAROLINA

COUNTY OF GASTON
COUNTY OF MECKLENBURG

LAKE WYLIE – WILKINSON BOULEVARD/NC HIGHWAY 74

CATAWBA-WATEREE PROJECT (FERC Project Number 2232)

THIS BRIDGE PERMIT (this "Permit") is made and entered into as of the _____ day of _____, 2025 ("Effective Date"), by and between **DUKE ENERGY CAROLINAS, LLC**, a North Carolina limited liability company ("Duke Energy"), and the **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**, an agency of the State of North Carolina ("Permittee"), each may be referred to herein singularly as "Party" and collectively as the "Parties";

W I T N E S S E T H:

WHEREAS, Permittee owns, leases or otherwise controls substantial equity interests in lands in Gaston County and Mecklenburg County, North Carolina, adjacent to Lake Wylie (the "Lake"), which is part of Duke Energy's Catawba-Wateree Project (FERC No. 2232) (the "Project") which Project is subject to the regulatory oversight of, and is operated pursuant to a license (the "License") issued by, the Federal Energy Regulatory Commission ("FERC"); and

WHEREAS, Permittee desires to use a portion of Project lands for the purpose of constructing, maintaining and operating a public bridge (the "Bridge") on Wilkinson Boulevard (North Carolina Highway 74) to provide access for the public over the Catawba River, a section of the Lake Wylie, to replace an existing bridge that will be demolished, as more fully described herein; and

WHEREAS, Duke Energy desires to accommodate Permittee's request for the construction, maintenance, and operation of the Bridge while at the same time not interfering with Duke Energy's ability to operate and maintain the Project in accordance with the License and other FERC requirements; and

WHEREAS, Article 411(c) of the FERC License for the Project allows the licensee of the Project to convey easements or rights-of-way across, or leases of, Project lands for the construction, maintenance, and operation of the Bridge, for which all necessary state and federal approvals have been obtained, without prior FERC approval; and

WHEREAS, Permittee has obtained all necessary state and federal approvals for the construction, maintenance, and operation of the Bridge.

NOW, THEREFORE, upon the terms and conditions hereafter set out, the covenants and agreements hereafter expressed to be kept and performed by Permittee, and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable considerations to Duke Energy paid, the receipt of which is hereby acknowledged, Duke Energy has bargained and sold, and by these presents does hereby bargain, sell, grant and convey to said Permittee, its successors and assigns, a perpetual permit for the purpose of Permittee's construction, maintenance and operation of the Bridge over a portion of the Project lands near North Carolina State Road Highway 74 on Wilkinson Boulevard more particularly described as follows:

Permanent Bridge Permit - That area or parcel of land containing 1.96± acres, shown on the survey as (1) Tony M. Wright Permit Area Below 100' Contour 1.852 acres; (2) Tony M. Wright Permit Area Above 100' Contour 0.064 acres; and, (4) City of Belmont Permit Area Below 100' Contour 0.044 acres, on the survey entitled "The NCDOT over Duke Energy Lake Wylie Project Boundary," prepared by TGS Engineers, dated October 24, 2025, attached hereto as **Exhibit A** and incorporated herein by reference (collectively, the "Permanent Permit Area").

Permanent Fill Area – Those areas or parcels of land shown as permanent fill areas on design sheets 5, 5A, 6, and 6A, attached hereto as **Exhibit B** and incorporated herein by reference. (collectively, the "Permanent Fill Area"). (The Permanent Permit Area and the Permanent Fill Area shall be collectively referred to herein as the "Permanent Permit Areas").

Temporary Construction Permit Area - Those areas or parcels of land containing 3.593± acres, shown on the survey as (8) Tony M. Wright Temp. Const. Permit Area Below 100' Contour 0.902 acres; (9) Tony M. Wright Temp. Const. Permit Area Above 100' Contour 0.110 acres; (10) Tony M. Wright Temp. Const. Permit Area Below 100' Contour 2.512 acres; and, (11) City of Belmont Temp. Const. Permit Area Below 100' Contour 0.069 acres, on **Exhibit A** (collectively, the "Temporary Construction Permit Area").

TERMS AND CONDITIONS:

1. Term: This Permit begins on the date hereof and runs in perpetuity; provided, however, Duke Energy may terminate this Permit as provided herein or require its modification at any time if directed to do so by FERC or its successor agency.

2. Improvements: Permittee shall construct, maintain and operate the Bridge in accordance with the specifications shown on **Exhibit A**, and having a minimum of fourteen (14) feet of navigational clearance above full pond elevation for the middle third of the bridge and eighteen point forty-eight (18.48) feet of clearance at its peak. Permittee agrees that it will obtain written approval from Duke Energy before initiating any replacement or major repair to the Bridge within the Permanent Permit Areas, and that any future modifications will still provide navigable bridge spans with at least the clearance heights noted on **Exhibit A**. Permittee also agrees to advise any other party that it may become aware of who desires to place improvements within the Permanent Permit Areas, that said party must first obtain written approval from Duke Energy.

The Permanent Fill Area may be used for installation of fill associated with construction of the above described Bridge project. Once completed, Permittee shall provide Duke Energy with a new survey of the Project Boundary in the Permanent Fill Area. Permittee shall reimburse Duke Energy for the cost associated with the preparation and submittal of an **Exhibit G** revision to the FERC. Permittee shall have the right to construct and maintain in a proper manner in, upon and through said area, together with the right at all times to enter said area for the purpose of inspecting said Permanent Fill Area and making all necessary repairs and alterations thereon; together with the right to cut away and keep clear of said Permanent Fill Area, all trees and other obstructions that may in any way endanger or interfere with the same, with the right at all times of ingress, egress and regress. Permittee shall have the right to construct and maintain the cut and/or fill slopes in the Permanent Permit Areas.

The Temporary Construction Permit Area may be used for construction associated with the above described Bridge project. Permittee shall remove the temporary fill and restore the impacted Temporary Construction Permit Area back to its original condition prior to construction, and provide Grantor documentation and/or topography maps as confirmation of same. Use of the Temporary Construction Permit Area and the temporary permits granted herein shall terminate upon completion of the Bridge and Permanent Permit Areas.

3. Maintenance: Permittee recognizes that it has the continuing responsibility to ensure that the constructed facilities are maintained in good repair, including but not limited to the maintenance and operation of the Bridge, any required navigation safety devices, and proper erosion control within the Permanent Permit Areas, and agrees to take all reasonable steps necessary to meet this responsibility. Permittee shall maintain and operate all structures within the Permanent Permit Areas in a safe and sound condition and in a neat appearance and pay all costs for said maintenance and operation. Permittee also agrees to advise any other party that it may become aware of who desires to access the Permanent Permit Areas, for maintenance purposes, that said party must first obtain written approval from Duke Energy.

4. Protection of Environment: Permittee's use of the Permanent Permit Areas shall not endanger public health, create a nuisance or otherwise be incompatible with the overall recreational use of the Project. Permittee shall take all necessary precautions to ensure that the construction, operation, and maintenance of the Bridge will occur in a manner that will protect the scenic, recreational, cultural, water supply and environmental values of the Project.

5. Access: It is understood by and between Duke Energy and Permittee that Permittee shall have such right of ingress, egress and regress over and upon lands of Duke Energy adjacent to or in the vicinity of the Permanent Permit Areas as may be essential to the use thereof for the construction and operation of the Bridge.

6. Compliance with State, Federal and Local Laws: Permittee agrees that its use of the Permanent Permit Areas and the Temporary Construction Permit Area as herein provided shall be consistent with all FERC

orders, regulations and requirements regarding recreational opportunities and development at licensed projects and use of Project lands and facilities, and all other applicable federal, state and local laws as well as all ordinances, rules, regulations and sanctions of any regulatory body or governmental agency (federal, state or local) having jurisdiction in the Permanent Permit Areas and the Temporary Construction Permit Area.

7. Reservation of Use: The right to use the Permanent Permit Areas and the Temporary Construction Permit Area for all Project purposes is hereby reserved to the FERC Project licensee and its successors and assigns.

8. Reservation of Authority: No terms or conditions herein contained shall be construed as limiting or affecting in any way the authority of Duke Energy in connection with its exercise of proper protection and administration of its FERC License.

9. Transfer or Assignment: Permittee may not transfer or assign this Permit without the prior written consent of Duke Energy.

10. Archaeological Resources: Permittee shall comply with the cultural resources consultation requirements specified in Duke Energy's Historic Properties Management Plan for the Project regarding any ground-disturbing activities, inadvertent discoveries, treatment of human remains and funerary objects or significant modifications to the Permanent Permit Areas and the Temporary Construction Permit Area. If previously unidentified archeological or historical properties are discovered during the course of excavation/construction/demolition within the Permanent Permit Areas or the Temporary Construction Permit Area, Permittee shall stop all land clearing or land disturbing activity in the vicinity of the excavation/construction/demolition area and notify Duke Energy immediately. Duke Energy shall initiate the required consultation process with the State Department of Archives and History, and the State Historic Preservation Office. Duke Energy may be required to prepare a cultural resources management plan for approval by the FERC that includes but is not limited to the following: (i) a description of each discovered property indicating whether it is listed on, or eligible for listing on the National Register of Historic Places, (ii) a description of the potential effect, and (iii) the proposed measures for avoiding or mitigating the impacts. Permittee shall be responsible for implementing any required cultural resource management plan. No land clearing or land disturbing activities within the Permanent Permit Areas or the Temporary Construction Permit Area shall resume until authorized in writing by Duke Energy.

11. Flooding and Drawdown: Duke Energy reserves the right to back, flood, or draw down the waters of the Catawba River and its tributaries from time to time and at any and all times over and upon the Permanent Permit Areas or any portion of the same, to such extent the flooding or drawdown may be reasonably necessary or convenient in connection with the practical operation of its hydroelectric power plants or other electric generation operations located or to be located in the future upon the Catawba River or its tributaries and to the extent such flooding or drawdown is consistent with Duke Energy's obligations under its License, other applicable easements and agreements, and applicable law. Permittee agrees that any damage it may suffer as a result of such flooding or drawdown shall not be claimed or charged against Duke Energy.

12. FERC Project Restoration: Duke Energy shall be under no obligation to Permittee to maintain or continue to operate the Project or Lake and should said Project or Lake be damaged, destroyed or removed, Duke Energy shall be under no obligation to restore or rebuild same, and Permittee hereby waives all claims against Duke Energy for damages to or destruction or removal of the Project or Lake.

13. Parties Bound: The covenants and conditions herein contained shall apply to and bind the successors and assigns of the Parties hereto; provided, however, that neither this Permit nor any interest therein may be assigned or transferred by Permittee except as provided in Paragraph 9.

14. Termination & Waiver: It is expressly agreed and understood that the violation of any of the covenants, conditions, terms or provisions of this Permit by Permittee, including but not limited to noncompliance with applicable federal or state regulations, or health and sanitation laws, shall terminate this Permit at the option of Duke Energy. This Permit may also be terminated by Duke Energy if at any time during the duration of this Permit (or any renewal thereof) the Permittee should be adjudged bankrupt or insolvent by any federal or state court or the Permittee shall allow a final judgment obtained against it to remain unpaid for a period of sixty (60) days. Failure of Duke Energy to exercise any of said rights relating to the termination of this Permit or any other rights of Duke Energy under this Permit shall not be construed as a waiver or abandonment of the right thereafter to exercise any or all of same. In the event that Duke Energy terminates this Permit under any of the above written conditions, Duke Energy may enter the Permanent Permit Areas and the Temporary Construction Permit Area and expel the Permittee therefrom; or Duke Energy may, in lieu thereof or in conjunction therewith, pursue any other lawful right or remedy incident to the relationships created by this Permit. Duke Energy must give sixty (60) days' notice in writing to Permittee of its intent to terminate. Permittee shall have the right to cure any violation during said sixty-day notice period, in which event Duke Energy may not terminate this Permit.

15. Non-warranty, As Is: Duke Energy makes no warranty, express or implied, with respect to the title to the Permanent Permit Areas and the Temporary Construction Permit Area. Permittee accepts the Permanent Permit Areas and Temporary Construction Permit Area in "AS IS" condition.

16. Utility Easement: Duke Energy reserves an easement to build, construct, maintain and operate electric distribution/transmission lines on, over, along and above the Permanent Permit Areas. Duke Energy also reserves the right, privilege and easement to erect, construct, reconstruct, replace, maintain and use towers, poles, wires, crossarms and other appliances and fixtures for the purpose of transmitting or distributing electric power, for said Duke Energy's communication purposes, and for any other purpose that is, in Duke Energy's sole discretion, consistent with its business operations, together with the right to keep said lines, appliances, and fixtures free of structures, trees and other objects that may endanger or interfere with same.

17. Notices: Wherever in this Permit it shall be required or permitted that notice be given by either Party to this Permit to the other, such notice must be in writing and must be given in person, by U.S. Mail, overnight courier, or electronic mail addressed as follows:

To Duke Energy: Duke Energy Carolinas, LLC
Attn: Lake Services (DEP-35B) Brett Garrison
525 South Tryon Street
Charlotte, North Carolina 28202

To Permittee: North Carolina Department of Transportation
c/o Michael Turchy
1581 Mail Service Center
Raleigh, North Carolina 27699-1581

Such addresses may be changed from time to time by notice given hereunder. Each Party shall provide timely notice to the other Party of any address changes or name changes.

18. Removal of Existing Bridge: Upon the completion of construction of the Bridge, Permittee shall demolish and completely remove the existing bridge and associated facilities from the Project Boundary and restore the area to its natural condition, to the extent reasonably possible (including but not limited to removal of the existing support structure down to level with the lakebed) and the Project Boundary restored.

19. Existing Agreements Amended and Superseded: Beginning on the date the Bridge has been constructed and the existing bridge has been demolished and completely removed from within the Project Boundary and the Project Boundary restored, this Permit shall amend, restate, replace and supersede all previous easements or other agreements between Duke Energy and Permittee, or their respective predecessors in interest, for the use of the area where the existing bridge is located, and such prior leases or other agreements are of no further force or effect.

(Remainder of page intentionally blank. Signature pages follow.)

IN WITNESS WHEREOF, the Parties hereto have caused this instrument to be executed this the day and year first above written.

DUKE ENERGY:

DUKE ENERGY CAROLINAS, LLC
a North Carolina limited liability company

By: _____
Print Name: _____
Title: _____

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

I certify that _____ personally appeared before me this day, acknowledging to me that he or she signed the foregoing Bridge Permit document, on behalf of the company, in the capacity stated.

Date: _____

_____
Notary Public

_____
Notary Name Typed/Printed

My Commission Expires: _____

[Notary Seal]

[Signatures Continue on Following Page]

IN WITNESS WHEREOF, the Parties hereto have caused this instrument to be executed this the day and year first above written.

PERMITTEE:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
an agency of the State of North Carolina

By: Michael Turchy
Print Name: Michael Turchy
Title: NCDOT Environmental Coordination and Permitting Group Leader

STATE OF NORTH CAROLINA

COUNTY OF Wake

The foregoing instrument was acknowledged before me this 13 day of November, 2025, by Michael Turchy (name of officer), as NCDOT Environmental Coordination & Permitting Group Leader (title of officer) on behalf of NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, an agency of the State of North Carolina, in the capacity stated.

Notary Public

Charles J Holland
Notary Name Typed/Printed

My Commission Expires: June 18, 2029

[Notary Seal]

CHARLES J HOLLAND
NOTARY PUBLIC
HENDERSON COUNTY, NC

Exhibit A

Notes:

- All distances are horizontal ground feet unless otherwise noted.
- Areas were determined by coordinate computations.
- All coordinates and distances are in US Survey Feet.
- This survey does not certify to title or ownership.
- No title search was provided for this survey.
- The survey that resulted in the preparation of this plat used only the information of record as noted hereon.
- Property is subject to any and all easements, rights of way, and restrictive covenants of record.
- Lake Wylie Project Boundary is Elevation 100.0' as measured from the full pond elevation. Reference is made to DB 277 PG 309.
- Elevations shown hereon based on Lake Wylie Project Datum at full pond at the time of the survey.

ELEVATION DATUM NOTES:

THE FOLLOWING CONVERSIONS APPLY:

LAKE WYLIE PROJ. ELEV = 100' = 569.4' (NCVD29)
NCDOT PROJ. ELEV = 568.64' (NAVD88)

VICINITY MAP – NO SCALE

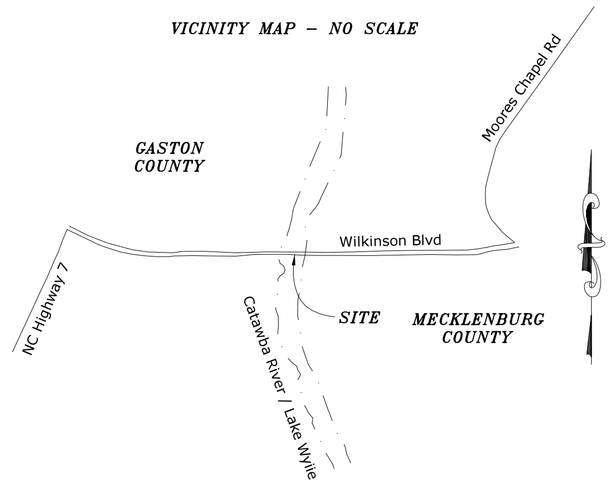
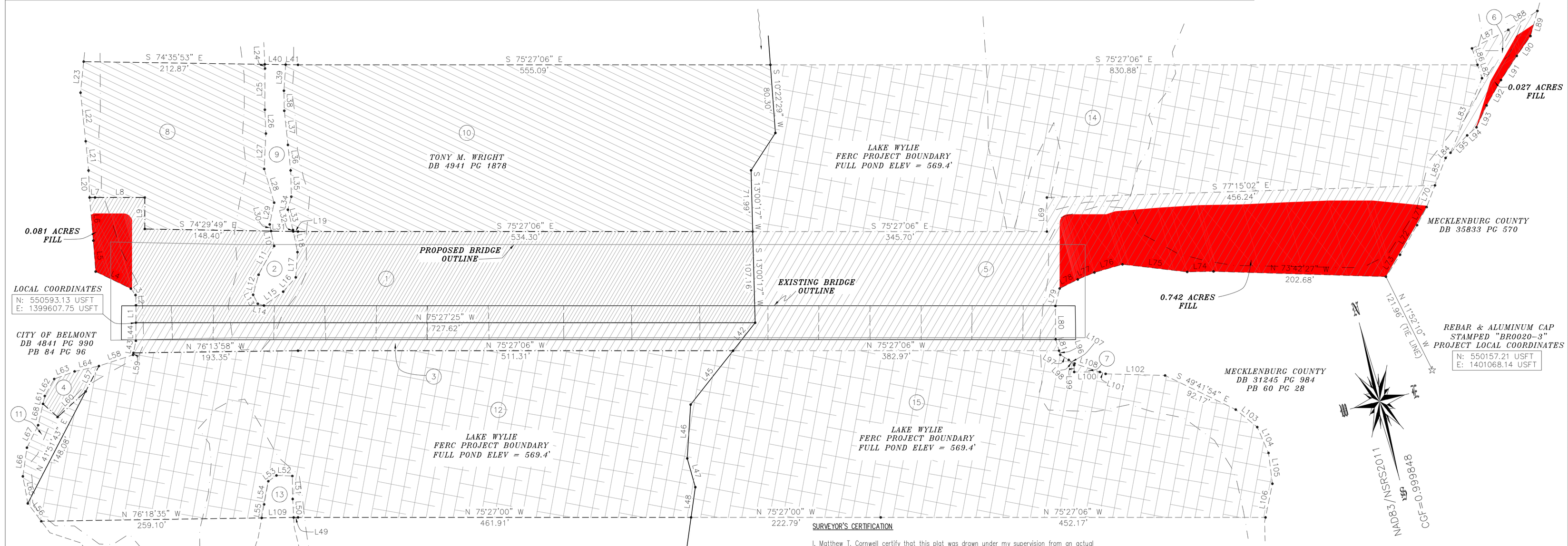


TABLE OF AREAS

1 TONY M. WRIGHT PERMIT AREA BELOW 100' CONTOUR 1.852 ACRES	6 DUKE ENERGY EASEMENT AREA BELOW 100' CONTOUR 0.095 ACRES	11 CITY OF BELMONT TEMP. CONST. PERMIT AREA BELOW 100' CONTOUR 0.069 ACRES
2 TONY M. WRIGHT ABOVE 100' CONTOUR 0.064 ACRES	7 DUKE ENERGY EASEMENT AREA BELOW 100' CONTOUR 0.004 ACRES	12 DUKE ENERGY TEMP. CONST. EASEMENT AREA BELOW 100' CONTOUR 3.312 ACRES
3 DUKE ENERGY EASEMENT AREA BELOW 100' CONTOUR 0.545 ACRES	8 TONY M. WRIGHT TEMP. CONST. PERMIT AREA BELOW 100' CONTOUR 0.902 ACRES	13 CITY OF BELMONT ABOVE 100' CONTOUR 0.036 ACRES
4 CITY OF BELMONT PERMIT AREA BELOW 100' CONTOUR 0.044 ACRES	9 TONY M. WRIGHT ABOVE 100' CONTOUR 0.110 ACRES	14 DUKE ENERGY TEMP. CONST. EASEMENT AREA BELOW 100' CONTOUR 3.158 ACRES
5 DUKE ENERGY EASEMENT AREA BELOW 100' CONTOUR 2.084 ACRES	10 TONY M. WRIGHT TEMP. CONST. PERMIT AREA BELOW 100' CONTOUR 2.512 ACRES	15 DUKE ENERGY TEMP. CONST. EASEMENT AREA BELOW 100' CONTOUR 2.778 ACRES

LEGEND

- ☆ PROJECT CONTROL MONUMENT
- • UNMARKED POINT
- PROP. PERMIT LINE (FROM DESIGN FILE)
- PROP. EASEMENT LINE (FROM DESIGN FILE)
- PROP. TEMP. CONST. PERMIT (FROM DESIGN)
- PROP. TEMP. CONST. EASEMENT (FROM DESIGN)
- PROPOSED BRIDGE (FROM DESIGN FILE)
- BOUNDARY LINE (SURVEYED)
- FERC PROJECT BOUNDARY (SURVEYED)
- EDGE OF WATER (SURVEYED)
- CONCRETE BRIDGE OUTLINE (SURVEYED)
- TIE LINE (SURVEYED)



STATE OF NORTH CAROLINA, COUNTY OF GASTON

I,_____, Review officer of Gaston County, certify that the map or plat to which this certification is affixed meets all statutory requirements for recording.

Review Officer Date

STATE OF NORTH CAROLINA, COUNTY OF MECKLENBURG

I,_____, Review officer of Mecklenburg County, certify that the map or plat to which this certification is affixed meets all statutory requirements for recording.

Review Officer Date

SURVEYOR'S CERTIFICATION

I, Matthew T. Cornwell certify that this plat was drawn under my supervision from an actual survey performed under my supervision (deed description recorded in Book 277, Page 309, Gaston County Registry); that the boundaries not surveyed are clearly indicated as dashed lines drawn from information found as shown hereon; that the ratio of precision as calculated exceeds 1: 10,000; and that this plat was prepared in accordance with G.S. 47-30 as amended. This plat meets the requirements of G.S. 47-30 Section f-11-d: That the survey is of another category, such as the recombination of existing parcels, a court-ordered survey, or other exception to the definition of subdivision.

Witness my original signature and seal this the 10/24/2025.

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

Signed by: Matthew Cornwell
EBD36F11473E475...

SURVEYOR
L-4775
N.C. P.L.S. LICENSE NUMBER

THOMAS GORDON SHOOK ENGINEERS, INCORPORATED CORPORATE SEAL 1978 N.C.

ENGINEER'S CERTIFICATION

I am certifying the outline of the proposed bridge over the Catawba River, the proposed low chord elevation of the proposed bridge over the Catawba River, and proposed cut/fill lines.

The outline of the proposed bridge is based on the engineering design plans dated August 25, 2025.

The low chord elevation of the proposed bridge is based on verified field data, the approved Bridge Survey Report dated July 18, 2022 and hydraulic modeling.

Cut and fill lines shown on this plat reflect proposed grading operations and are based on engineering design plans dated August 25, 2025. These lines are intended to guide earthwork activities and are subject to final construction adjustments.

NORTH CAROLINA PROFESSIONAL SEAL 16725 ENGINEER SCOTT D. BLEVINS

10/24/2025

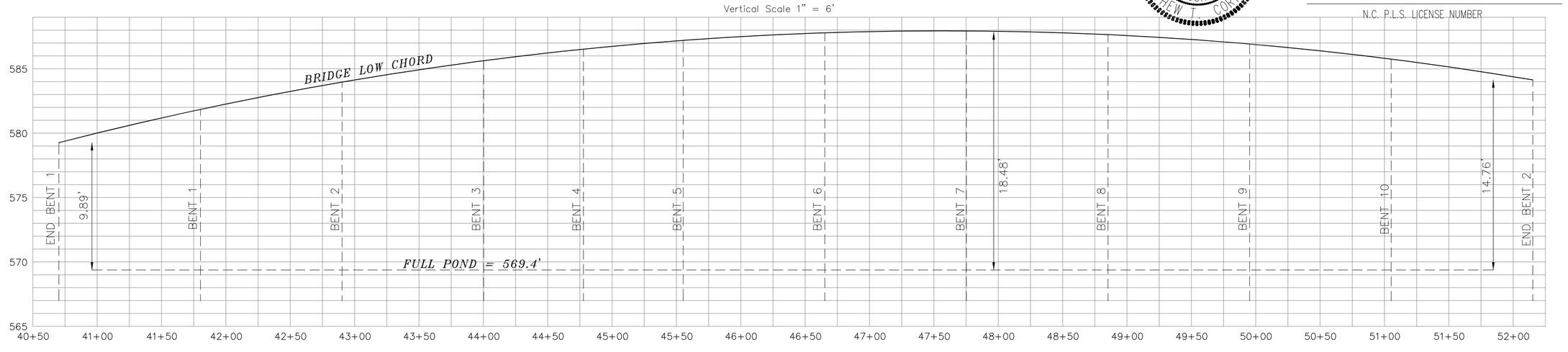
Signed by: Scott D. Blevins
476C9C504EEF4A1...

ENGINEER
16725
ENGINEER LICENSE NUMBER

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 14°42'52" E	20.57'
L2	N 12°08'15" E	12.00'
L3	N 21°55'11" W	9.41'
L4	N 49°34'23" W	45.93'
L5	N 10°17'20" E	36.48'
L6	N 09°35'21" E	50.82'
L7	S 75°27'06" E	6.38'
L8	S 75°27'06" E	58.52'
L9	S 14°32'54" W	37.00'
L10	S 03°02'24" W	17.86'
L11	S 42°57'20" W	38.37'
L12	S 29°46'14" W	24.39'
L13	S 12°41'21" E	11.88'
L14	S 59°17'43" E	7.55'
L15	N 68°45'28" E	27.90'
L16	N 55°49'44" E	22.35'
L17	N 18°32'12" E	29.73'
L18	N 03°01'03" E	24.76'
L19	S 74°29'49" E	5.53'
L20	N 12°26'03" E	31.81'
L21	N 08°55'33" E	34.54'
L22	N 08°26'47" E	57.39'
L23	N 20°23'17" E	36.66'
L24	S 11°50'23" W	4.89'
L25	S 14°46'37" W	48.39'
L26	S 12°03'38" W	28.11'
L27	S 17°18'45" W	41.51'
L28	S 01°51'32" E	41.46'
L29	S 26°04'43" W	26.07'
L30	S 03°02'24" W	8.03'
L31	S 74°29'49" E	26.10'
L32	N 03°01'03" E	1.76'
L33	N 00°20'43" E	24.64'
L34	N 29°33'02" E	15.84'
L35	N 13°03'32" E	30.84'
L36	N 08°26'18" E	30.16'
L37	N 08°26'41" E	40.43'
L38	N 13°32'18" E	23.54'
L39	N 18°22'33" E	30.68'
L40	S 74°35'53" E	24.48'
L41	S 74°35'53" E	14.50'
L42	S 52°45'31" W	41.85'
L43	N 25°49'23" E	14.53'
L44	N 14°42'52" E	21.19'
L45	S 52°45'31" W	80.66'
L46	S 18°13'23" W	63.35'
L47	S 01°10'39" E	35.13'
L48	S 22°30'38" W	35.88'
L49	N 76°18'35" W	5.09'
L50	N 11°28'03" E	21.68'
L51	N 13°40'53" E	27.05'
L52	N 73°29'18" W	18.66'
L53	S 69°13'26" W	11.71'
L54	S 24°48'47" W	27.62'
L55	S 24°42'17" W	16.20'
L56	N 22°23'07" W	26.21'
L57	N 42°08'08" E	33.76'
L58	N 86°29'39" E	42.17'
L59	N 25°49'23" E	2.35'
L60	S 62°08'29" W	44.51'
L61	N 27°22'13" E	9.48'
L62	N 43°36'54" E	22.82'
L63	N 84°03'42" E	25.55'
L64	S 88°02'30" E	29.29'
L65	N 04°09'16" E	32.30'
L66	N 22°35'59" E	34.04'
L67	N 41°08'34" E	29.56'
L68	N 27°22'13" E	25.71'
L69	N 14°32'54" E	40.00'
L70	S 35°40'17" W	27.46'
L71	S 42°28'28" W	23.92'
L72	S 44°20'10" W	40.18'
L73	S 47°19'58" W	30.65'
L74	N 76°34'01" W	30.92'
L75	N 68°46'29" W	76.61'
L76	S 88°20'56" W	34.35'
L77	S 81°54'43" W	21.23'
L78	S 77°58'25" W	23.71'
L79	S 28°11'46" W	21.09'
L80	S 14°10'05" W	39.16'
L81	S 02°05'06" E	13.99'
L82	S 04°03'14" E	16.61'
L83	S 37°28'01" W	95.10'
L84	S 58°15'33" W	8.34'
L85	S 35°40'17" W	34.58'
L86	N 04°03'14" W	20.37'
L87	N 77°29'47" W	47.89'
L88	N 71°26'59" E	40.88'
L89	S 29°54'49" W	30.68'
L90	S 49°13'58" W	28.40'
L91	S 47°47'22" W	33.88'
L92	S 44°00'18" W	34.27'
L93	S 39°25'23" W	28.29'
L94	S 63°36'13" W	14.51'
L95	S 58°15'33" W	28.31'
L96	S 02°05'06" E	5.02'
L97	S 43°57'59" E	11.59'
L98	S 31°11'10" E	8.92'
L99	S 13°46'20" W	7.91'
L100	S 75°27'06" E	30.19'
L101	N 57°05'18" W	7.02'
L102	S 73°51'52" E	69.96'
L103	S 36°08'56" E	32.58'
L104	S 08°59'51" E	33.21'
L105	S 07°18'47" W	36.36'
L106	S 26°05'25" W	40.42'
L107	S 43°57'59" E	8.17'
L108	S 57°05'18" E	31.31'
L109	N 76°18'35" W	37.57'

Horizontal Scale 1" = 60'
Vertical Scale 1" = 6'



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0' 60' 120' 180'
SCALE 1"= 60'

TGS ENGINEERS
FIRM LICENSE NUMBER
C-0275

SURVEY OF LEASE LIMITS & FERC MAP FOR:

The NCDOT over Duke Energy Lake Wylie Project Boundary

Location: Wilkinson Boulevard over Catawba River / Lake Wylie
Deed References: DB 277 PG 309 (Gaston Co. Registry)
PID NO: None
Map/Blk/Lot: None
Southpoint Twp, Gaston Co. & Berryhill Twp, Mecklenburg Co.

TGS Engineers
201 WEST MARION STREET – SUITE 200
SHELBY, NC 28150
PH. (704) 476-0003

DRAWN BY: M. T. Cornwell, PLS, PE		SURVEYED BY: JJT, MTC, JHT & MTW
Date of Survey: 7/2022 & 3/2023	Map Date: 10/24/2025	CHECKED BY: M.T. Cornwell, PE, PLS

SHEET 1 OF 1

Exhibit B

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	5
R/W SHEET NO.	5A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

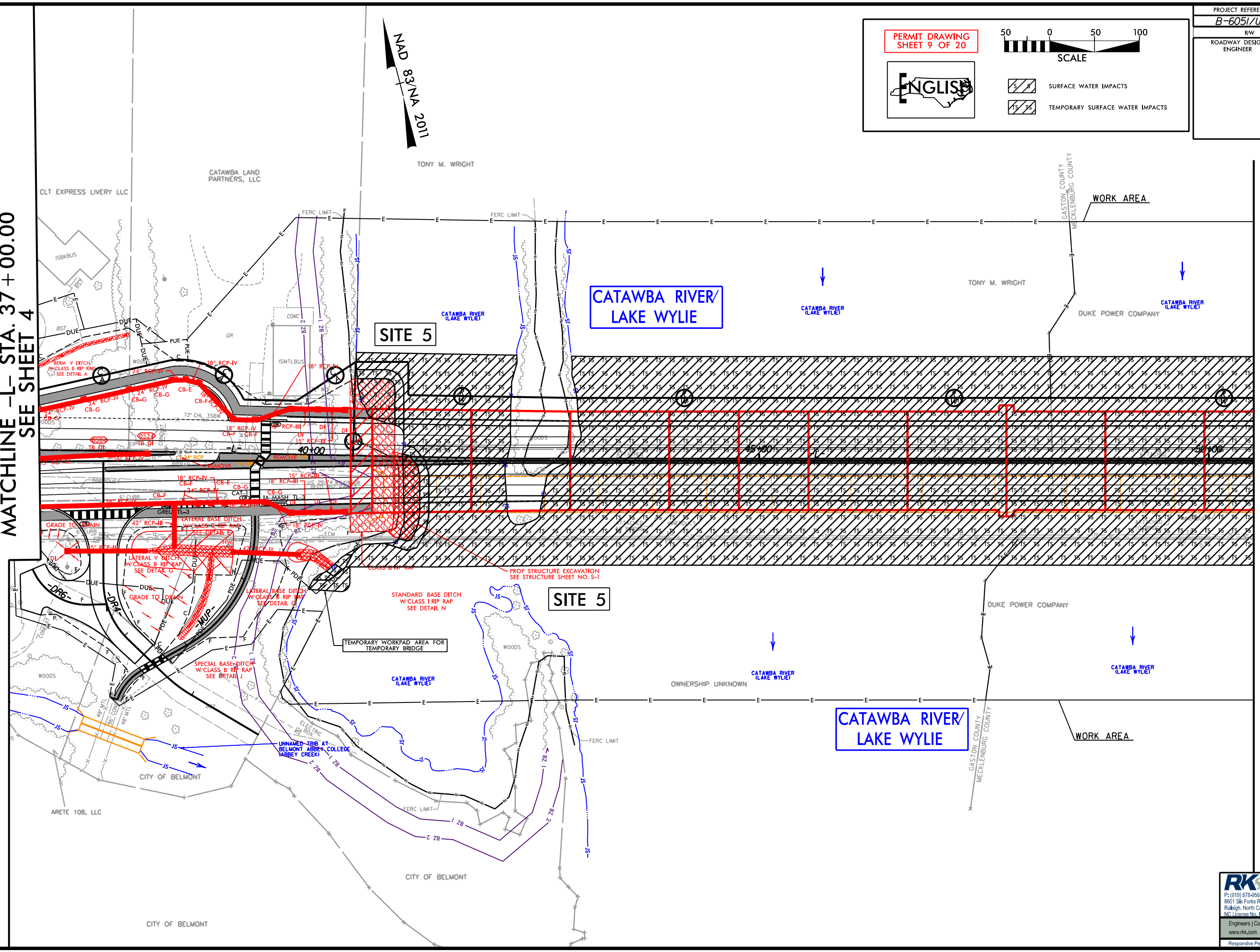
PERMIT DRAWING
SHEET 9 OF 20

ENGLISH

50 0 50 100
SCALE

S S SURFACE WATER IMPACTS

TS TS TEMPORARY SURFACE WATER IMPACTS



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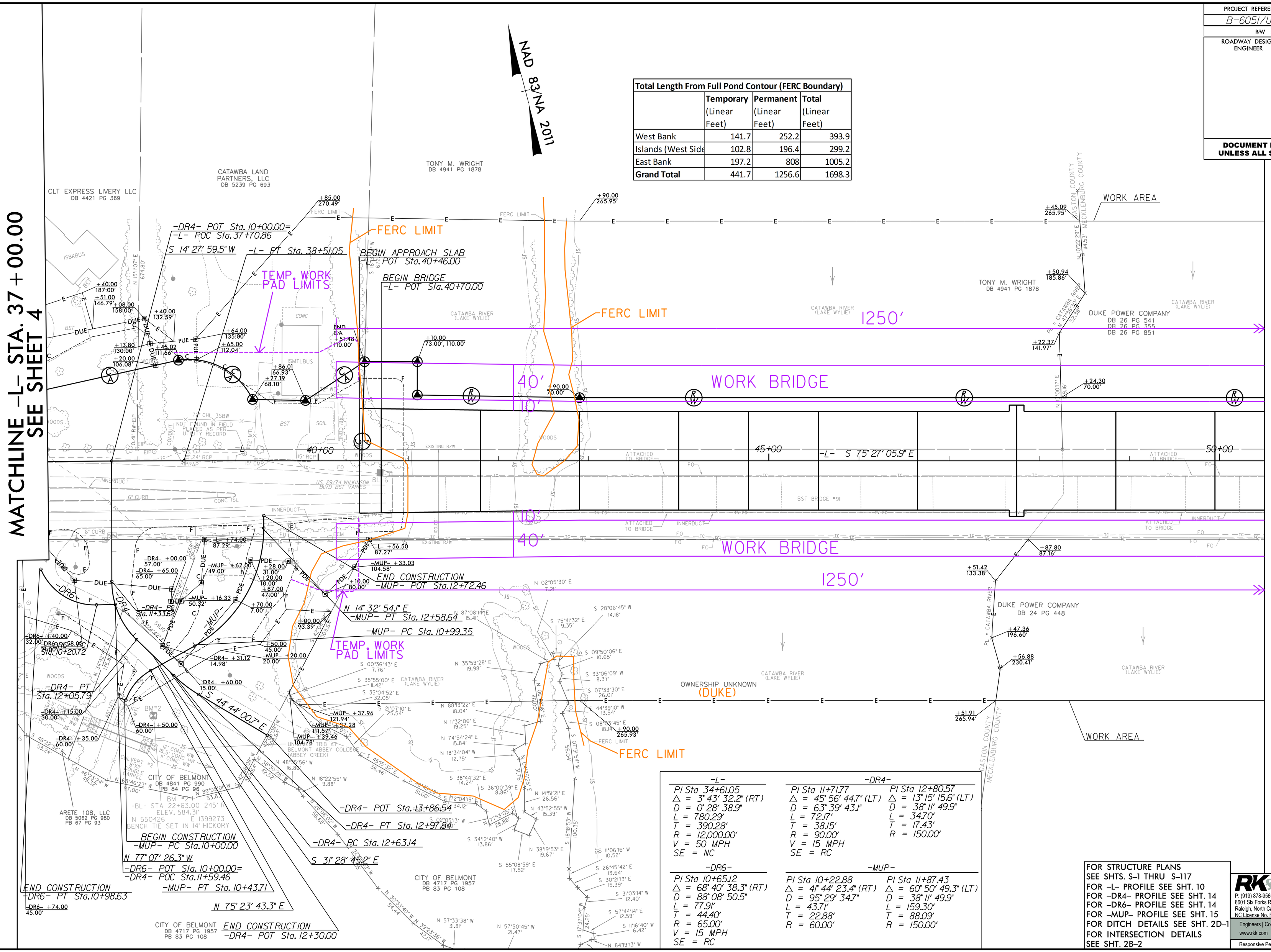
$$$$$$SYSTIME$$$$$$
$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	5A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Total Length From Full Pond Contour (FERC Boundary)			
	Temporary (Linear Feet)	Permanent (Linear Feet)	Total (Linear Feet)
West Bank	141.7	252.2	393.9
Islands (West Side	102.8	196.4	299.2
East Bank	197.2	808	1005.2
Grand Total	441.7	1256.6	1698.3



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1/5/2024
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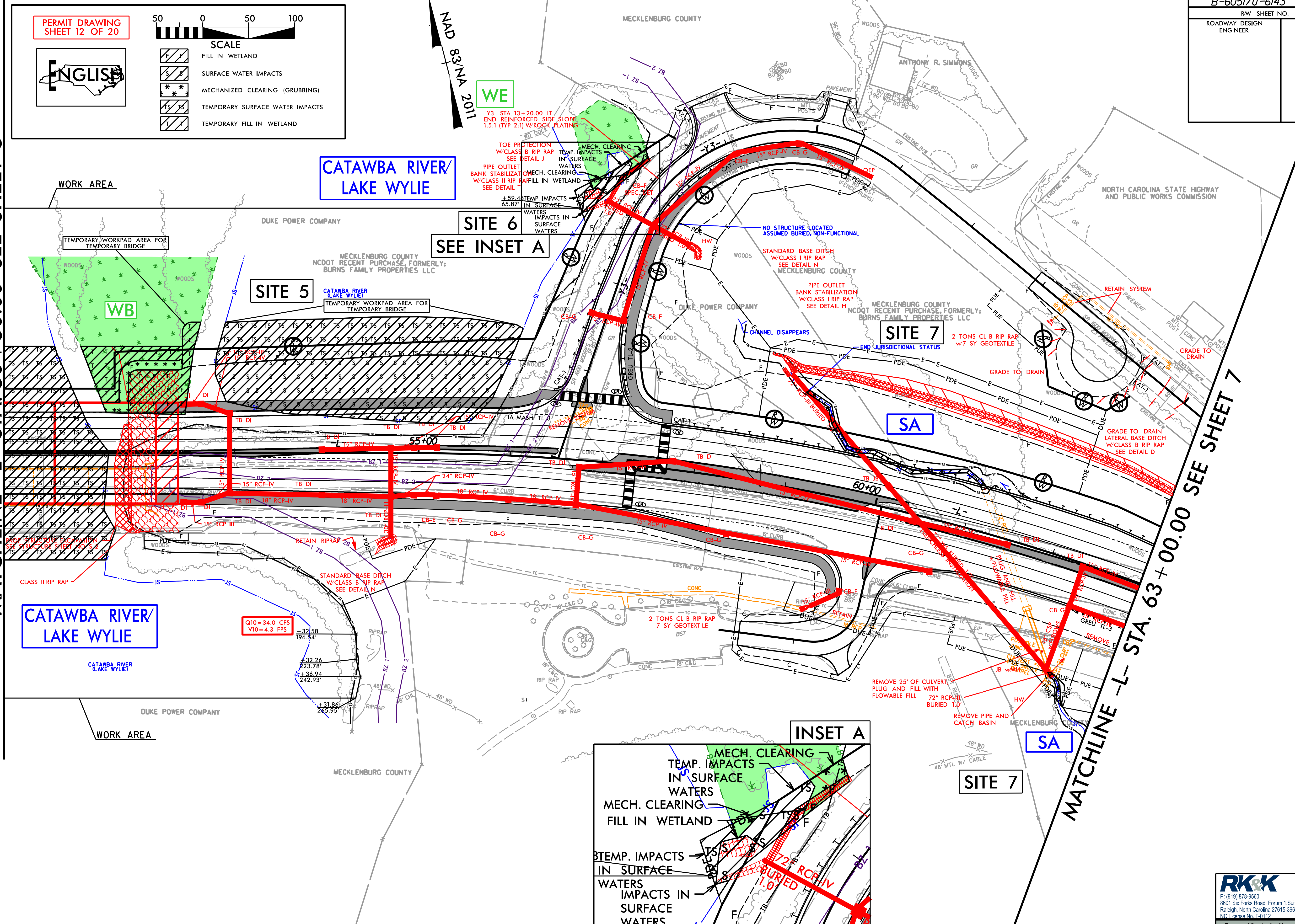
default

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	6
R/W SHEET NO.	6A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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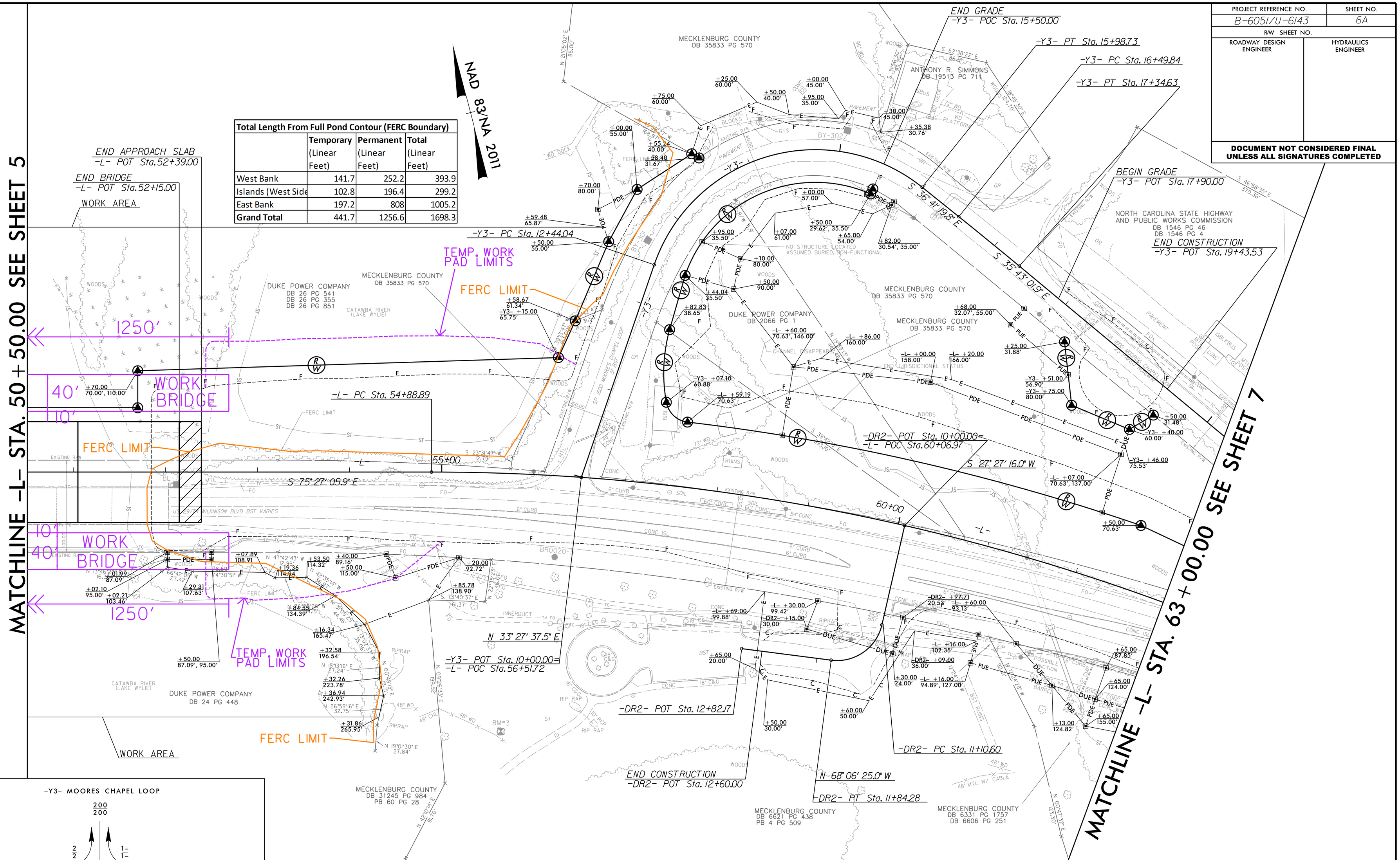
8/17/99

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	6A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



Total Length From Full Pond Contour (FERC Boundary)	Temporary (Linear Feet)	Permanent (Linear Feet)	Total (Linear Feet)
West Bank	141.7	252.2	393.9
Islands (West Side	102.8	196.4	299.2
East Bank	197.2	808	1005.2
Grand Total	441.7	1256.6	1698.3

-Y3- MOORES CHAPEL LOOP

200
200

2 / 2

1 / 1

-L- US 29-74 / WILKINSON BLVD. 29,848 / 36,088

29,648 / 35,888 -L- US 29-74 / WILKINSON BLVD.

2024 AADT
2044 AADT

-L-	-Y3-		-DR2-
PI Sta 61+42.81	PI Sta 15+07.52	PI Sta 16+92.24	PI Sta 11+55.96
△ = 31° 44' 32.4" (RT)	△ = 109° 51' 02.8" (RT)	△ = 0° 58' 17.8" (RT)	△ = 84° 26' 19.0" (RT)
D = 2° 29' 28.0"	D = 30° 58' 14.5"	D = 1° 08' 45.3"	D = 114° 35' 29.6"
L = 1,274.22'	L = 354.69'	L = 84.79'	L = 73.69'
T = 653.92'	T = 263.48'	T = 42.40'	T = 45.37'
R = 2,300.00'	R = 185.00'	R = 5,000.00'	R = 50.00'
V = 50 MPH	V = 25 MPH	V = 30 MPH	V = 15 MPH
SE = .03	SE = .04	SE = NC	SE = RC

FOR STRUCTURE PLANS SEE SHTS. S-1 THRU S-117
FOR -L- PROFILE SEE SHTS. 10-11
FOR -Y3- PROFILE SEE SHT. 13
FOR -DR2- PROFILE SEE SHT. 13
FOR DITCH DETAILS SEE SHT. 2D-1
FOR INTERSECTION DETAILS SEE SHTS. 2B-3 & 2B-4

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default

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

WBS Element: 67020.1.1 **TIP/Proj No:** B-6051 / U-6143 **County(ies):** Gaston Mecklenburg

General Project Information

WBS Element:	67020.1.1	**TIP Number:**	B-6051 / U-6143	**Project Type:**	Bridge Replacement	**Date:**	5/20/2024
NCDOT Contact:	Marc Shown			**Contractor / Designer:**	Matthew Cook		
Address:	1000 Birch Ridge Drive Raleigh, NC 27610			**Address:**	8601 Six Forks Road Forum 1, Suite 700 Raleigh, NC 27615		
Phone:	919-707-6751			**Phone:**	919-878-9560		
Email:	mshown@ncdot.gov			**Email:**	mcook@rkk.com		
City/Town:	Belmont			**County(ies):**	Gaston	Mecklenburg	
River Basin(s):	Catawba			**CAMA County?**	No	No	
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	0.970 linear miles	**Surrounding Land Use:**	Woods, Recreation, Commercial, Residential				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	15.3	ac.		8.3	ac.		
Typical Cross Section Description:	A typical cross-section of 126.5' will be used; which will include six 12-foot travel lanes, sidewalks, median, shoulder berm gutter sections, open shoulder sections, and guardrail.			The existing typical cross-section is 85-feet wide with 6 11-foot travel lanes and varying shoulders.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	31,000	Year: 2045	Existing:	24,000	Year:	2018

General Project Narrative: (Description of Minimization of Water Quality Impacts)

B-6051 is a roadway widening project on US29/US74 from the existing 6 lanes to the proposed 6 lanes with median and sidewalks in Gaston and Mecklenburg counties. The expansion is 0.970 miles long begins on US29/US74 in Belmont to US29/US74 past SR 1600 (Moores Chapel Loop Road). Wetlands and perennial streams are found within the limits of the project area. The jurisdictional streams within the study area have no impairments and do not provide habitat for any threatened or endangered aquatic species.

Design Mitigations for wetlands and streams include:
1. Steepening of roadway fill slopes within jurisdictional areas.
2. Stormwater was designed to avoid direct discharge into jurisdictional features to the maximum extent practicable.
3. Stormwater design velocities entering jurisdictional features have been mitigated to be non-erosive.
4. Open shoulder sections were maximized to promote sheet flow from the roadway.
5. Diffuse flow provided at outlets that do not have a well defined outfall.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

WBS Element:	67020.1.1	**TIP/Proj No.:**	B-6051 / U-6143	**County(ies):**	Gaston Mecklenburg	**Page**	**2**	**of**	**2**

General Project Information

Waterbody Information

Surface Water Body (1):	Catawba River		**NCDWR Stream Index No.:**	11-(22)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)	Class B		
		Supplemental Classification:				
Other Stream Classification:						
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	Catawba River			**Buffer Rules in Effect:**	Catawba	
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	No	**Dissipator Pads Provided in Buffer?**	No	
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (2):	Abbey Creek		**NCDWR Stream Index No.:**	11-123-(2)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SC			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

TIP PROJECT: B-6051 /U-6143

CONTRACT NO:

$$$$$$SYSTIME$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$$

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-6051 / U-6143	1	

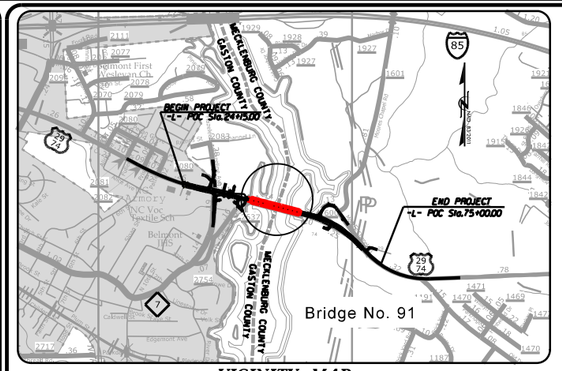
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
48708.1.1		P.E.
48326.1.1		P.E.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON / MECKLENBURG COUNTIES

LOCATION: BRIDGE NO. 91 OVER CATAWBA RIVER ON US 29 /US 74 AND INTERSECTION IMPROVEMENTS ON US 29 /US 74 (WILKINSON BLVD) AND NC 7 (CATAWBA ST)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, CULVERT, AND RESURFACING

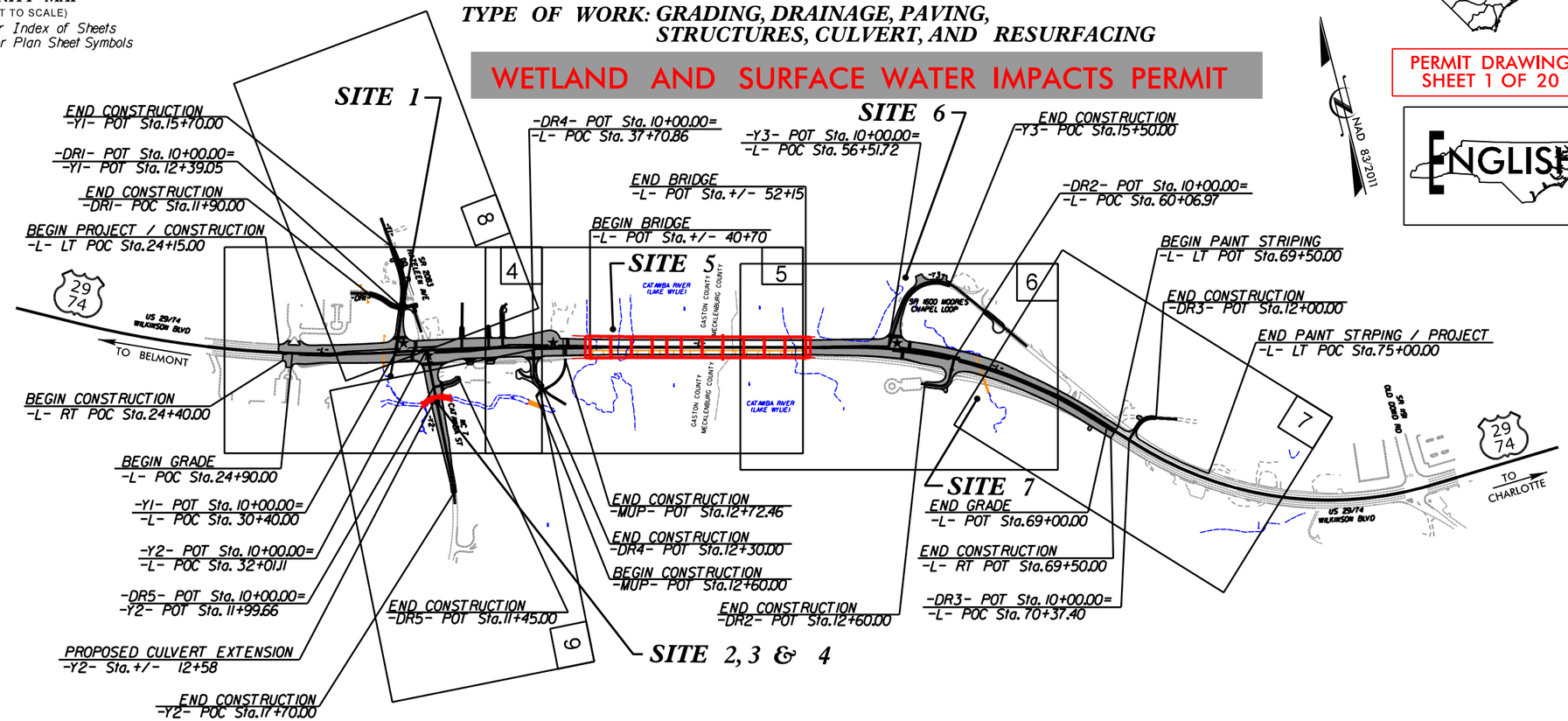


VICINITY MAP
(NOT TO SCALE)
See Sheet 1A For Index of Sheets
See Sheet 1B For Plan Sheet Symbols

WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 1 OF 20

ENGLISH



NOTES:
1. THIS PROJECT IS PARTIALLY WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF BELMONT.
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ___.

★ TRAFFIC SIGNAL

GRAPHIC SCALES

50 0 50 100
PLANS

50 0 50 100
PROFILE (HORIZONTAL)

10 00 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2024 = 25,476
ADT 2044 = 30,690
DHV = 11%
DIR = 80%
T = 6%*
V = 50 MPH
(* TTST =2% / DUAL 4%)

FUNC CLASS = MAJOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-6051 /U-6143	=	0.746 mi
LENGTH STRUCTURE TIP PROJECT B-6051 /U-6143	=	0.217 mi
TOTAL LENGTH TIP PROJECT B-6051 /U-6143	=	0.963 mi

PLANS PREPARED BY:
RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1 Suite 700
Raleigh, North Carolina 27615-3960
NC Licenses No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 23, 2023

LETTING DATE:
OCTOBER 17, 2023

Scott D. Blevins, P.E.
PROJECT ENGINEER

Carter Mull, P.E.
PROJECT DESIGN ENGINEER

David Stutts, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER
P.E.
SIGNATURE:

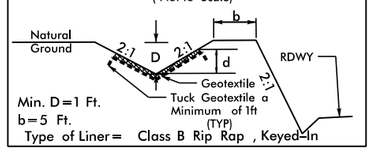
ROADWAY DESIGN ENGINEER
P.E.
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	2D-1
R/W SHEET NO.	
	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 2 OF 20

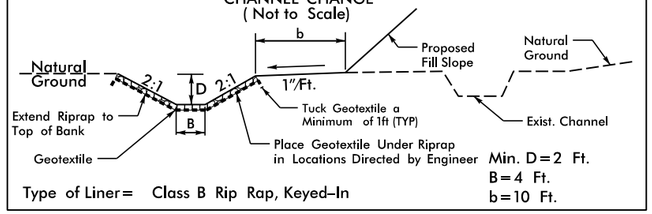
DETAIL A
BERM 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
b=5 Ft.
Type of Liner= Class B Rip Rap , Keyed–In

–L– STA. 36+35 TO STA. 38+00 LT
37 TON RIP RAP, 82 SY GEOTEXTILE

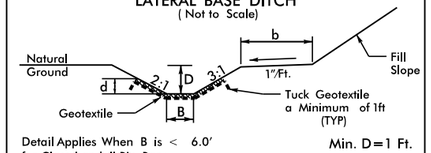
DETAIL B
CHANNEL CHANGE
(Not to Scale)



Min. D=2 Ft.
B=4 Ft.
b=10 Ft.
Type of Liner= Class B Rip Rap, Keyed–In

–Y2– STA. 12+88 TO STA. 13+83 RT
100 TON RIP RAP, 218 SY GEOTEXTILE

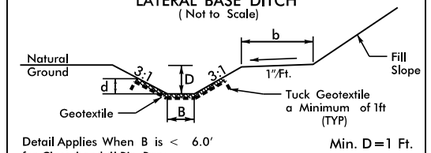
DETAIL C
LATERAL BASE DITCH
(Not to Scale)



Detail Applies When B is < 6.0'
for Class I and II Rip–Rap;
And All Widths for Class B Rip–Rap
Min. D=1 Ft.
d=1 Ft.
B=2 Ft.
b=5 Ft.
Type of Liner= Class B Rip–Rap, Keyed–In

–MUP– STA. 11+85 TO STA. 12+18 LT
9 TON RIP RAP, 20 SY GEOTEXTILE

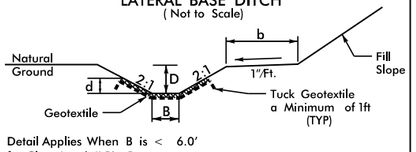
DETAIL D
LATERAL BASE DITCH
(Not to Scale)



Detail Applies When B is < 6.0'
for Class I and II Rip–Rap;
And All Widths for Class B Rip–Rap
Min. D=1 Ft.
d=1 Ft.
B=4 Ft.
b=5 Ft.
Type of Liner= Class B Rip–Rap, Keyed–In

–L– STA. 68+85 TO STA. 69+50 RT
34 TON RIP RAP, 75 SY GEOTEXTILE

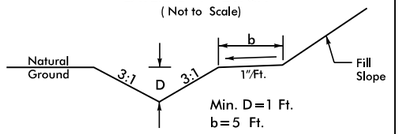
DETAIL E
LATERAL BASE DITCH
(Not to Scale)



Detail Applies When B is < 6.0'
for Class I and II Rip–Rap;
And All Widths for Class B Rip–Rap
B=4 Ft.
b=5 Ft.
Type of Liner=Class B Rip–Rap, Keyed–In

–L– STA. 38+50 TO STA. 39+15 RT (Min. D=2', d=2')
42 TON RIP RAP, 93 SY GEOTEXTILE
–L– STA. 59+00* TO STA. 68+37 LT (Min. D=1', d=1')
410 TON RIP RAP, 910 SY GEOTEXTILE
*DITCH CONTINUES FOR 30' BEYOND –L– 59+00,
TIES W/EXIST. CHAN. OAL=967' (APPROX.)

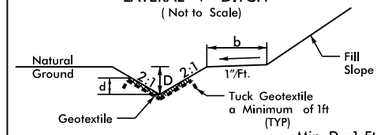
DETAIL F
LATERAL 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
b=5 Ft.

–L– STA. 27+10 LT TO STA. 29+83 LT
–Y1– STA. 11+05* LT TO STA. 11+25 LT
–Y1– STA. 13+25 LT TO STA. 14+00 LT
*DITCH CONTINUES FOR 37.2' BEYOND –Y1– 11+05,
CURVES TO TIE AT –L– 29+83.

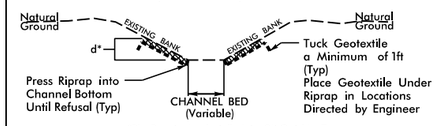
DETAIL G
LATERAL 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
d=1 Ft.
Type of Liner= Cl B Rip–Rap, Keyed–In b=5 Ft.

–L– STA. 38+20 TO STA. 38+50 RT
7 TON RIP RAP, 15 SY GEOTEXTILE

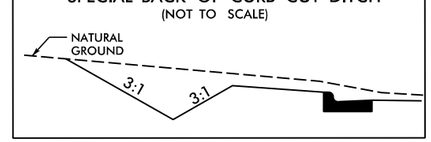
DETAIL H
PIPE OUTLET BANK STABILIZATION
(Not to Scale)



*Rip–Rap to be Installed to 2ft Outside Top of Ditch Slopes on Jurisdictional Streams
Length=40 Ft.
Type of Liner= Class I Rip–Rap, Keyed–In

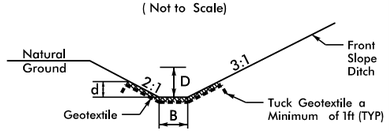
–L– STA. 29+83 RT (d=5')
85 TON RIP RAP, 130 SY GEOTEXTILE
–L– STA. 58+87 LT (d=3.5')
57 TON RIP RAP, 104 SY GEOTEXTILE

DETAIL I
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



–L– STA. 31+50 TO STA. 33+50 LT
–Y1– STA. 11+25 TO STA. 11+75 LT
–Y1– STA. 12+68 TO STA. 13+25 LT

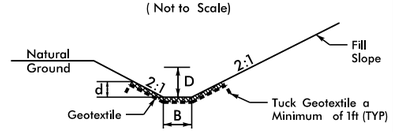
DETAIL J
SPECIAL BASE DITCH
(Not to Scale)



Min. D=1 Ft.
d=1 Ft.
Type of Liner= Class B Rip–Rap, Keyed–In B=2 Ft.

–MUP– STA. 11+00 TO STA. 11+85 LT
28 TON RIP RAP, 63 SY GEOTEXTILE

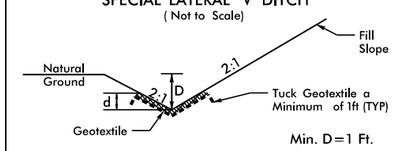
DETAIL K
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D=1 Ft.
d=1 Ft.
Type of Liner= Class I Rip–Rap, Keyed–In B=2 Ft.

–Y2– STA. 15+00* TO STA. 16+00 LT
*DITCH CONTINUES FOR 25' BEYOND –Y2– 15+00,
CURVES TO TIE W/NG. OAL=125' (APPROX.)
42 TON RIP RAP, 90 SY GEOTEXTILE

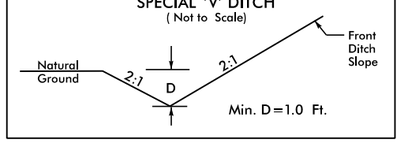
DETAIL L
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
Type of Liner= Cl A Rip–Rap, Keyed–In d=1 Ft.

–DR3– STA. 10+61 TO 11+00 LT
8 TON RIP RAP, 19 SY GEOTEXTILE
–DR3– STA. 10+58 TO 11+00 RT
9 TON RIP RAP, 21 SY GEOTEXTILE

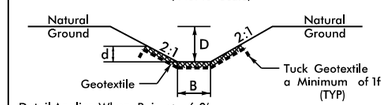
DETAIL M
SPECIAL 'V' DITCH
(Not to Scale)



Min. D=1.0 Ft.

–DR10– STA. 10+40 TO STA. 10+75 LT

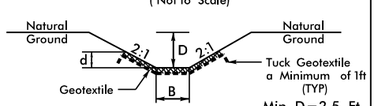
DETAIL N
STANDARD BASE DITCH
(Not to Scale)



Detail Applies When B is < 6.0'
for Class I and II Rip–Rap;
And All Widths for Class B Rip–Rap
Min. D=2 Ft.
d=2 Ft.
B=4 Ft.
Type of Liner= Class I Rip–Rap, Keyed–In

–L– STA.39+90 RT, L=38', S=3.3%,
BEG. ELEV=567.4', END ELEV=566.2'
26 TON RIP RAP, 55 SY GEOTEXTILE
–L– STA. 54+70 RT, L=16', S=3.1%,
BEG. ELEV=580.5', END ELEV=580.0'
11 TON RIP RAP, 23 SY GEOTEXTILE
–Y3– STA. 12+75 RT, L=20', S=1.0%,
BEG. ELEV=567.8', END ELEV=567.8'
14 TON RIP RAP, 29 SY GEOTEXTILE

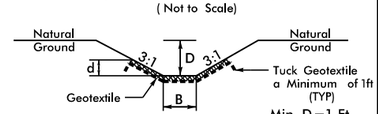
DETAIL O
STANDARD BASE DITCH
(Not to Scale)



Detail Applies When B is < 6.0'
for Class I and II Rip–Rap;
And All Widths for Class B Rip–Rap
Min. D=2.5 Ft.
d=2.5 Ft.
B=4 Ft.
Type of Liner= Class B Rip–Rap, Keyed–In

–L– STA. 29+78 LT, L=75', S=2.33%
BEG. ELEV=587.75', END ELEV=586.00'
57 TON RIP RAP, 127 SY GEOTEXTILE

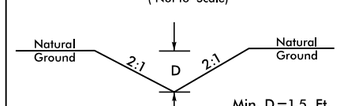
DETAIL P
STANDARD BASE DITCH
(Not to Scale)



Detail Applies When B is < 6.0'
for Class I and II Rip–Rap;
And All Widths for Class B Rip–Rap
Min. D=1 Ft.
d=1 Ft.
B=4 Ft.
Type of Liner= Class B Rip–Rap, Keyed–In

–L– STA. 70+00 LT, L=50', S=6.7%,
BEG. ELEV=630.0', END ELEV=626.7'
26 TON RIP RAP, 57 SY GEOTEXTILE

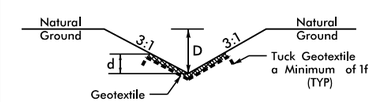
DETAIL Q
STANDARD 'V' DITCH
(Not to Scale)



Min. D=1.5 Ft.

–Y1– STA. 13+50 RT, L=93', S=4.32%
BEG. ELEV=599.25', END ELEV=595.25'
–DR11– STA. 10+25 LT, L=69', S=3.63%
BEG. ELEV=593.50', END ELEV=591.00'

DETAIL R
STANDARD 'V' DITCH
(Not to Scale)

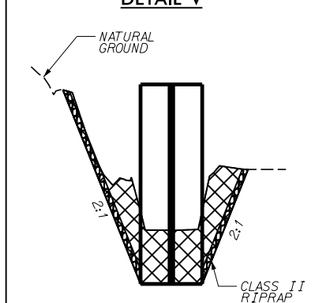


Min. D=1.5 Ft.
Type of Liner= Cl B Rip–Rap, Keyed–In d=1.0 Ft.

–DR11– STA. 11+33 LT, L=31', S=6.41%
BEG. ELEV=588.12', END ELEV=586.12'
10 TON RIP RAP, 22 SY GEOTEXTILE
–DR11– STA. 11+24 RT, L=35', S=9.20%
BEG. ELEV=590.23', END ELEV=586.97'
11 TON RIP RAP, 25 SY GEOTEXTILE

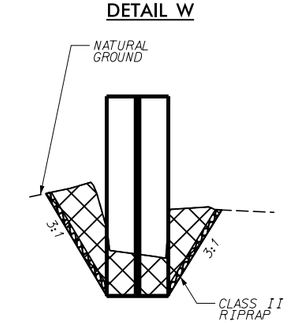
COMBINED QUANTITIES FOR DETAILS V AND W
PERMANENT CHANNEL EXCAVATION
TOTAL CHANNEL EXCAVATION = 83 CY
TOTAL CL II RIP RAP = 40 TONS
TOTAL GEOTEXTILE FAB. = 41 SY

DETAIL V



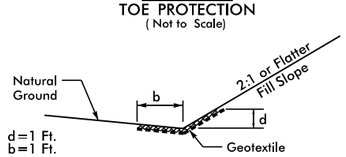
OUTLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH=17'

DETAIL W



INLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH=18'

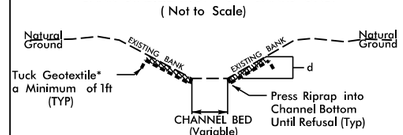
DETAIL S
TOE PROTECTION
(Not to Scale)



d=1 Ft.
b=1 Ft.
Type of Liner= Class B Rip–Rap

–L– STA. 65+50 TO STA. 68+00 RT
103 TON RIP RAP, 229 SY GEOTEXTILE
–Y2– STA. 11+10 TO STA. 12+61 RT
62 TON RIP RAP, 138 SY GEOTEXTILE
–Y2– STA. 13+00 TO STA. 16+50 RT
144 TON RIP RAP, 321 SY GEOTEXTILE

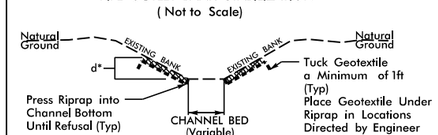
DETAIL T
BANK STABILIZATION ON BANKS ONLY
(Not to Scale)



Length= Varies
d= Varies
Est.= Class B Rip–Rap, Keyed–In
*Place Geotextile Under Riprap in Locations Directed by Engineer

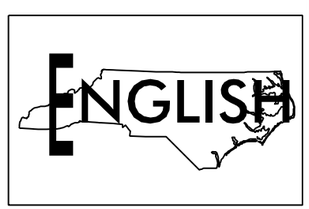
–Y2– STA. 12+60 LT; 3 TON RIP RAP, 7 SY GEOTEXTILE
–Y2– STA. 12+95 LT; 15 TON RIP RAP, 33 SY GEOTEXTILE
–Y2– STA. 12+85 RT; 7 TON RIP RAP, 16 SY GEOTEXTILE

DETAIL U
PIPE OUTLET BANK STABILIZATION
(Not to Scale)



Length=25 Ft.
d=3 Ft.*
*Rip–Rap to be Installed to 2ft Outside Top of Ditch Slopes on Jurisdictional Streams
Type of Liner= Class II Rip–Rap, Keyed–In

–Y3– STA. 12+75 LT
72 TON RIP RAP, 104 SY GEOTEXTILE



8/17/99
5/20/2024
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland_Stream Impacts\B-6051_hyd_psh02D.dgn

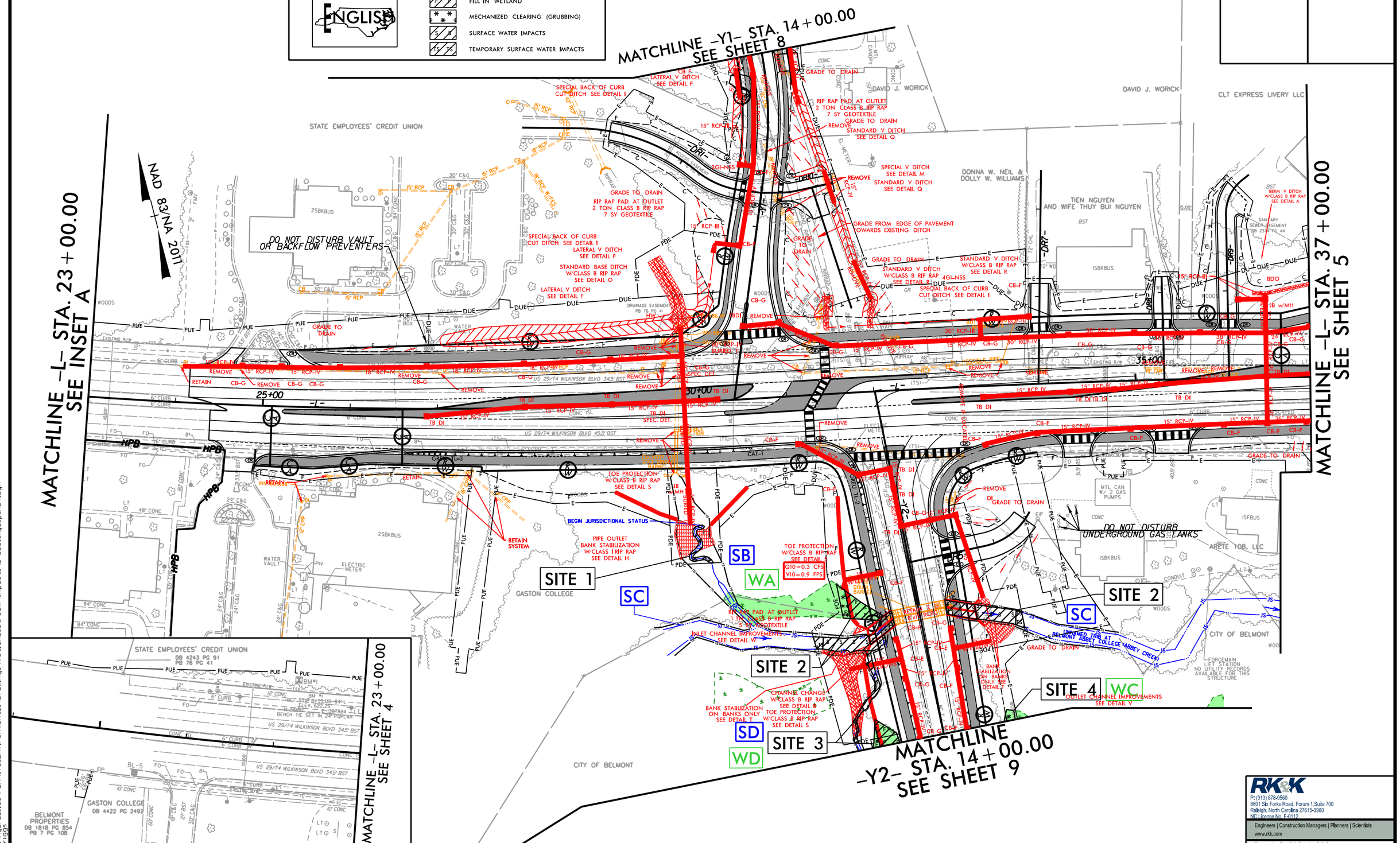
PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	4
R/W SHEET NO.	4A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 3 OF 20

ENGLISH

SCALE 50 0 50 100

FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS



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9/27/2024
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland_Stream Impacts\B-6051_hyd_psh04.dgn
eriggs

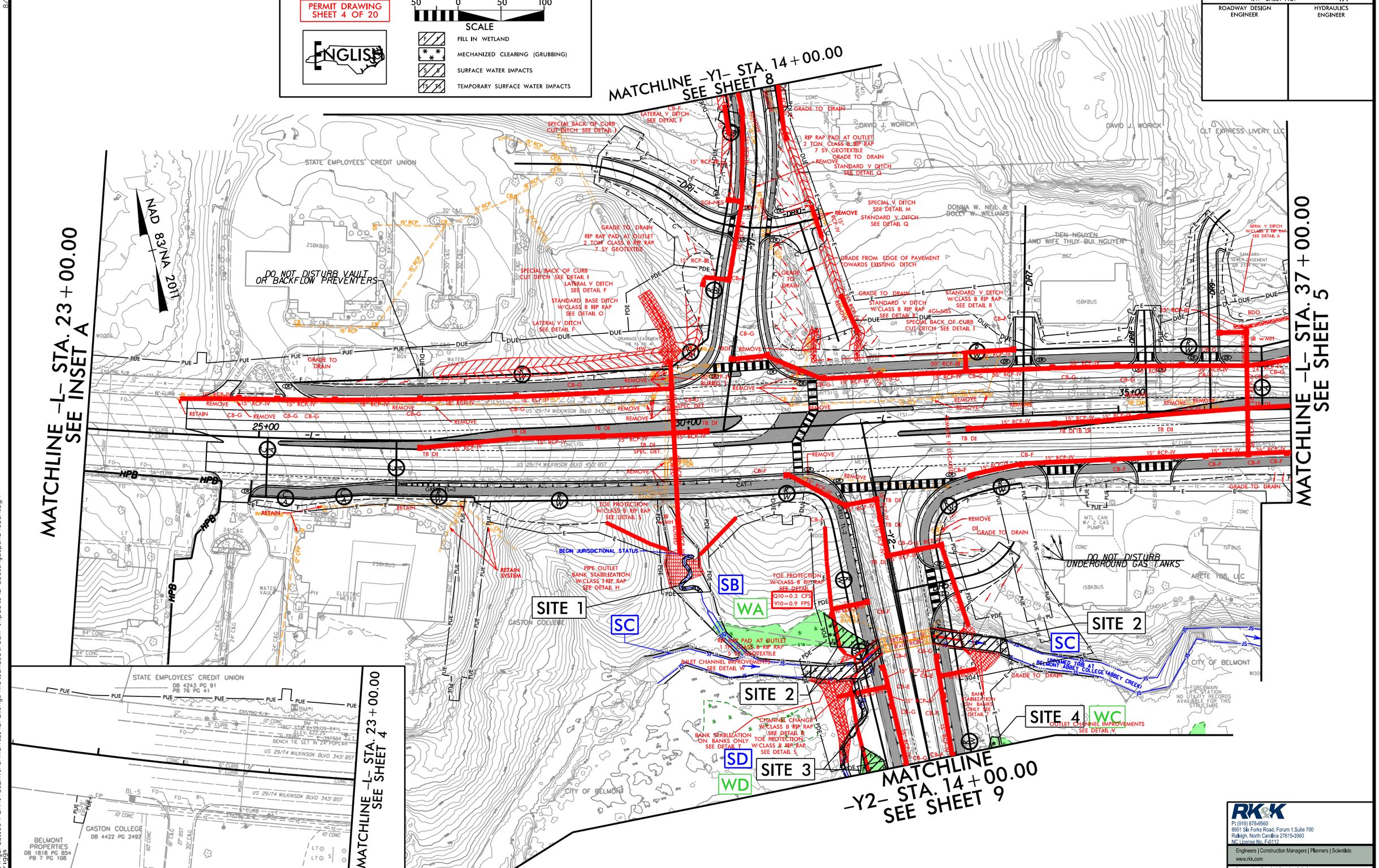
PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	4
R/W SHEET NO.	4A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 4 OF 20

ENGLISH

SCALE 50 0 50 100

- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS



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eriggs

PROJECT REFERENCE NO.	SHEET NO.

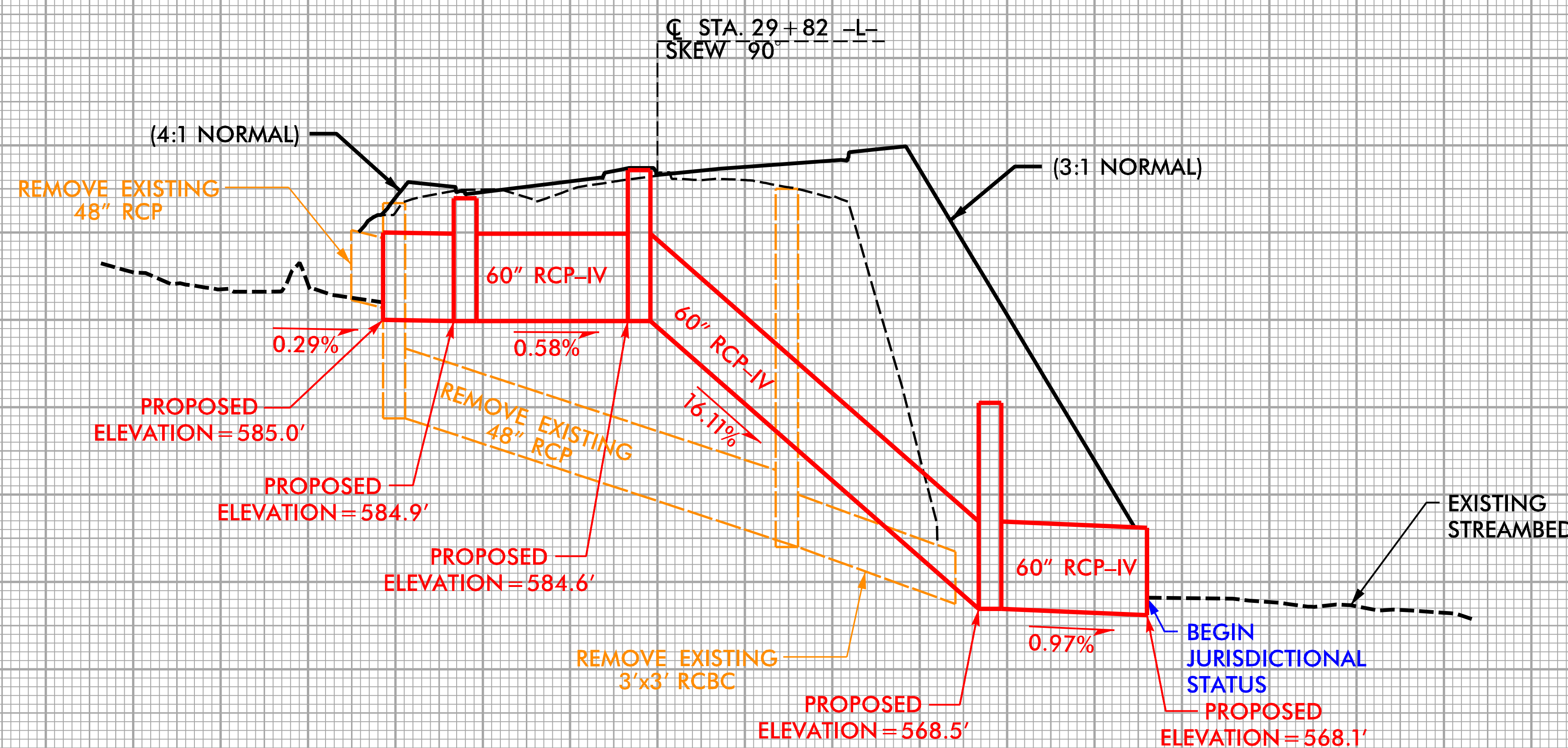
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/14/99

SITE 1
–L– STA. 29+82

PERMIT DRAWING
SHEET 5 OF 20

ENGLISH



60" RCP–IV
(buried 1')
(length=220')

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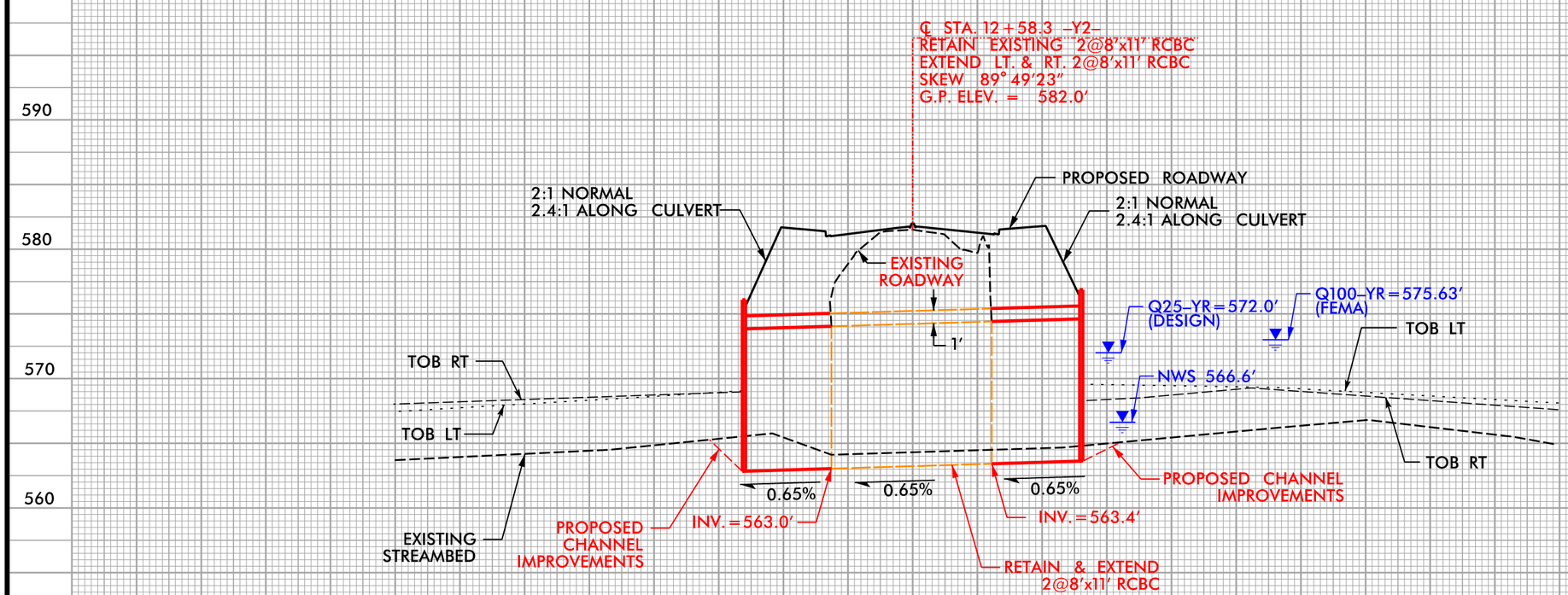
$$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 6 OF 20

SITE 2
–Y2– STA. 12+58.3



RETAIN AND EXTEND 2 @ 8'x11' RCBC LT.&RT. EXTENSIONS

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250 200 150 100 50 0 50 100 150 200 250

5/14/99

6/23/16

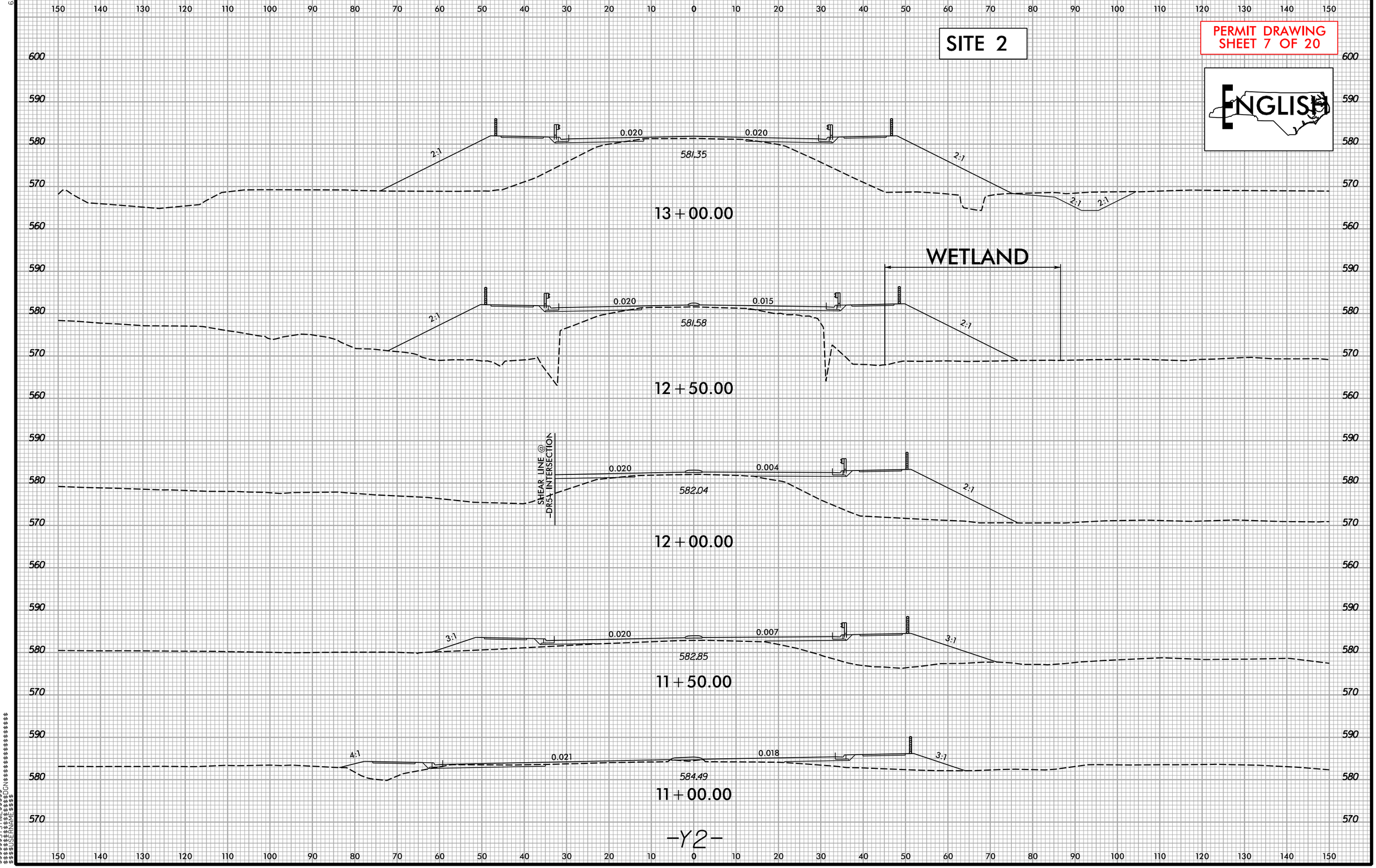
PROJ. REFERENCE NO.	SHEET NO.
B-6051/U-6143	X-32

0 5 10

PERMIT DRAWING
SHEET 7 OF 20

ENGLISH

SITE 2



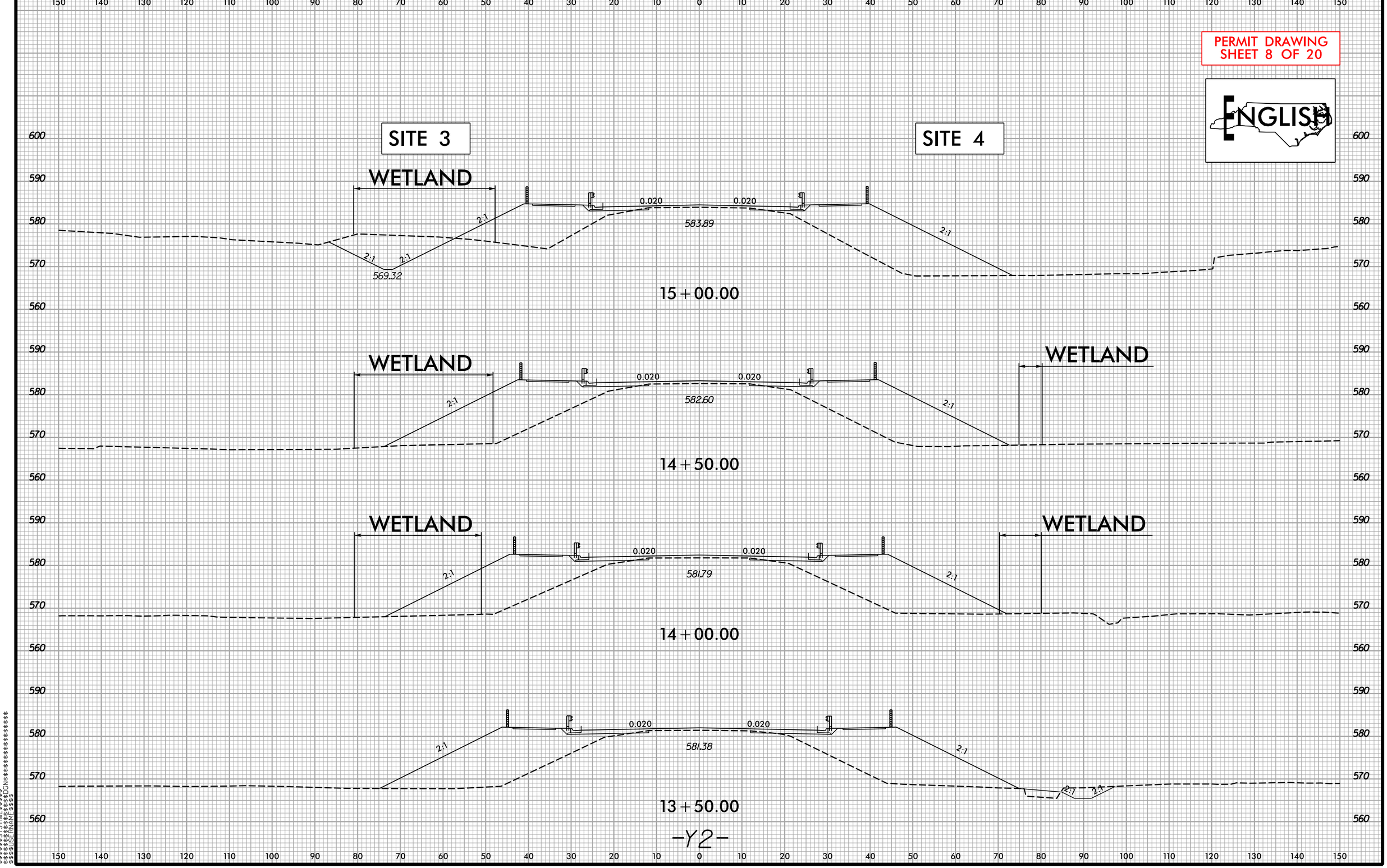
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$DFRAME$$$$

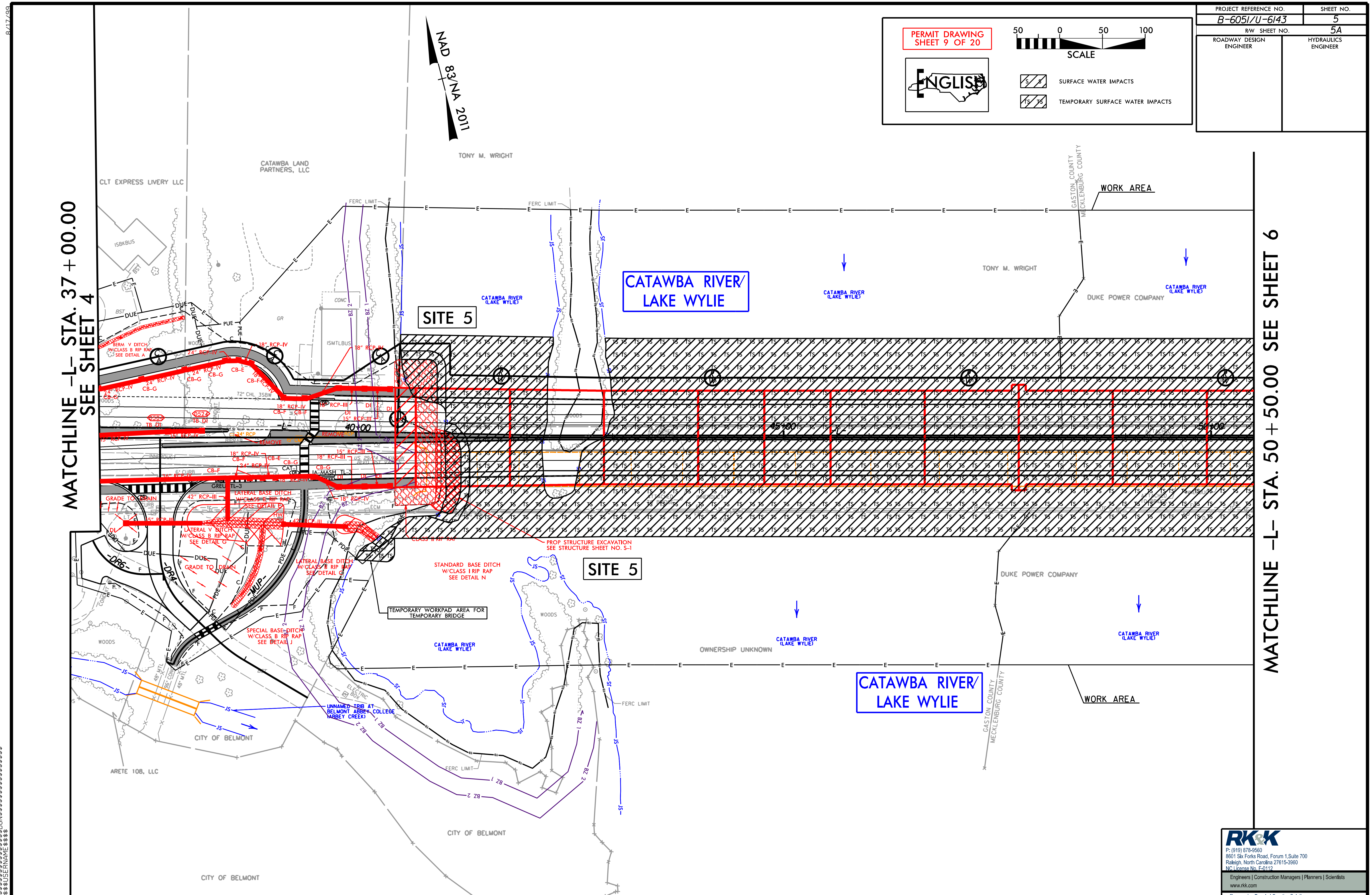
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-6051/U-6143	X-33

PERMIT DRAWING
SHEET 8 OF 20

ENGLISH




PROJECT REFERENCE NO.
B-6051/U-6143
SHEET NO.
5
R/W SHEET NO.
5A
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 9 OF 20
50 0 50 100
SCALE
ENGLISH
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
NAD 83/NA 2011
MATCHLINE -L- STA. 37+00.00 SEE SHEET 4
MATCHLINE -L- STA. 50+50.00 SEE SHEET 6
CATAWBA LAND PARTNERS, LLC
CLT EXPRESS LIVERY LLC
TONY M. WRIGHT
SITE 5
CATAWBA RIVER/ LAKE WYLIE
CATAWBA RIVER (LAKE WYLIE)
GASTON COUNTY
MECKLENBURG COUNTY
WORK AREA
DUKE POWER COMPANY
FERC LIMIT
BERM V DITCH W/CLASS B RIP RAP SEE DETAIL A
GRADE TO DRAIN
LATERAL V DITCH W/CLASS B RIP RAP SEE DETAIL G
LATERAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL E
LATERAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL G
SPECIAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL J
STANDARD BASE DITCH W/CLASS I RIP RAP SEE DETAIL N
PROP STRUCTURE EXCAVATION SEE STRUCTURE SHEET NO. S-1
CLASS II RIP RAP
TEMPORARY WORKPAD AREA FOR TEMPORARY BRIDGE
UNNAMED TRIB AT BELMONT ABBEY COLLEGE (ABBEY CREEK)
WOODS
CITY OF BELMONT
ARETE 108, LLC
OWNERSHIP UNKNOWN
40+00
45+00
50+00
-L-
-DR6-
-DR4-
-MUP-
US 29/74 WILKINSON BLVD
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PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	5
R/W SHEET NO.	5A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 10 OF 20

ENGLISH

50 0 50 100
SCALE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

NAD 83/NA 2011

MATCHLINE -L- STA. 37+00.00
SEE SHEET 4

MATCHLINE -L- STA. 50+50.00 SEE SHEET 6

CATAWBA LAND PARTNERS, LLC

CLT EXPRESS LIVERY LLC

TONY M. WRIGHT

CATAWBA RIVER/
LAKE WYLIE

SITE 5

WORK AREA

DUKE POWER COMPANY

CATAWBA RIVER (LAKE WYLIE)

FERC LIMIT

PERM. V DITCH W/CLASS B RIP RAP SEE DETAIL A

NOT FOUND IN FIELD PLACED AS PER UTILITY RECORD

LATERAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL D

LATERAL V DITCH W/CLASS B RIP RAP SEE DETAIL G

GRADE TO DRAIN

PROP STRUCTURE EXCAVATION SEE STRUCTURE SHEET NO. S-1

STANDARD BASE DITCH W/CLASS I RIP RAP SEE DETAIL N

TEMPORARY WORKPAD AREA FOR TEMPORARY BRIDGE

SPECIAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL J

UNNAMED TRIB AT BELMONT ABBEY COLLEGE (ABBEY CREEK)

WOODS

OWNERSHIP UNKNOWN

GASTON COUNTY
MECKLENBURG COUNTY

CITY OF BELMONT

CRETE 108, LLC

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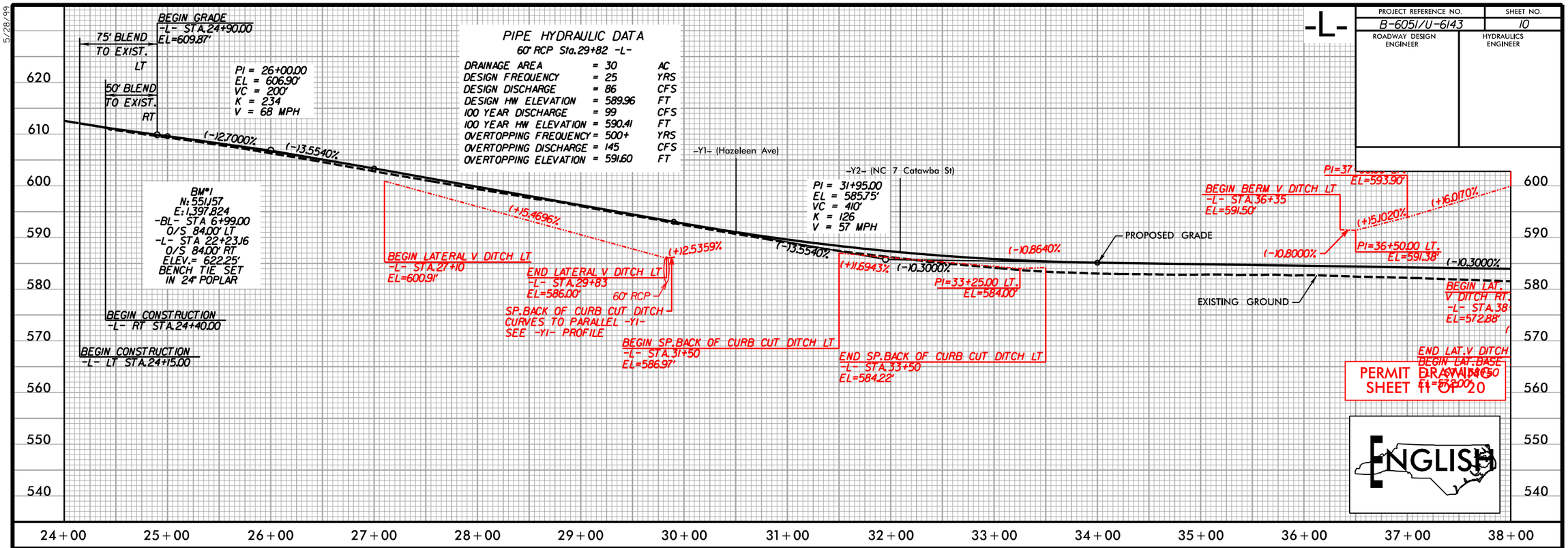
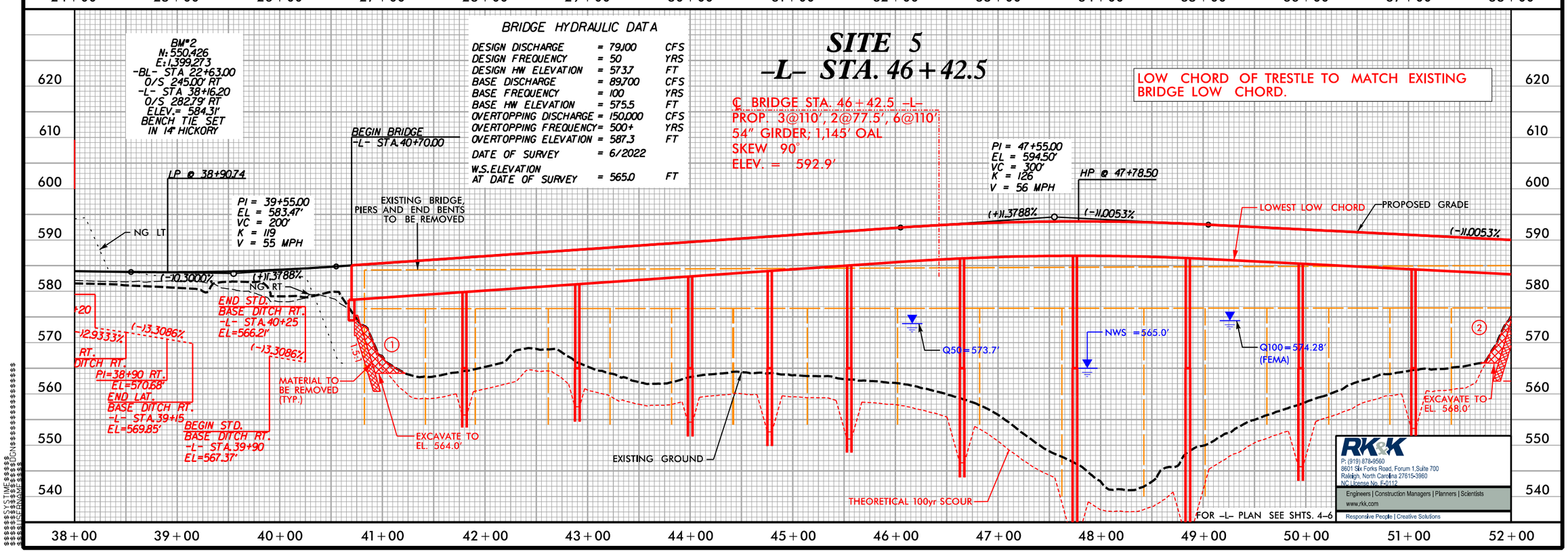
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-





BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 79.100	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 573.7	FT
BASE DISCHARGE	= 89.700	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 575.5	FT
OVERTOPPING DISCHARGE	= 150.000	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 587.3	FT
DATE OF SURVEY	= 6/2022	
W.S.ELEVATION AT DATE OF SURVEY	= 565.0	FT

SITE 5
-L- STA. 46+42.5

℄ BRIDGE STA. 46+42.5 -L-
PROP. 3@110', 2@77.5', 6@110'
54" GIRDER; 1,145' OAL
SKEW 90°
ELEV. = 592.9'

LOW CHORD OF TRESTLE TO MATCH EXISTING BRIDGE LOW CHORD.

PIPE HYDRAULIC DATA

60" RCP Sta.29+82 -L-

DRAINAGE AREA	= 30	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 86	CFS
DESIGN HW ELEVATION	= 589.96	FT
100 YEAR DISCHARGE	= 99	CFS
100 YEAR HW ELEVATION	= 590.41	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 145	CFS
OVERTOPPING ELEVATION	= 591.60	FT

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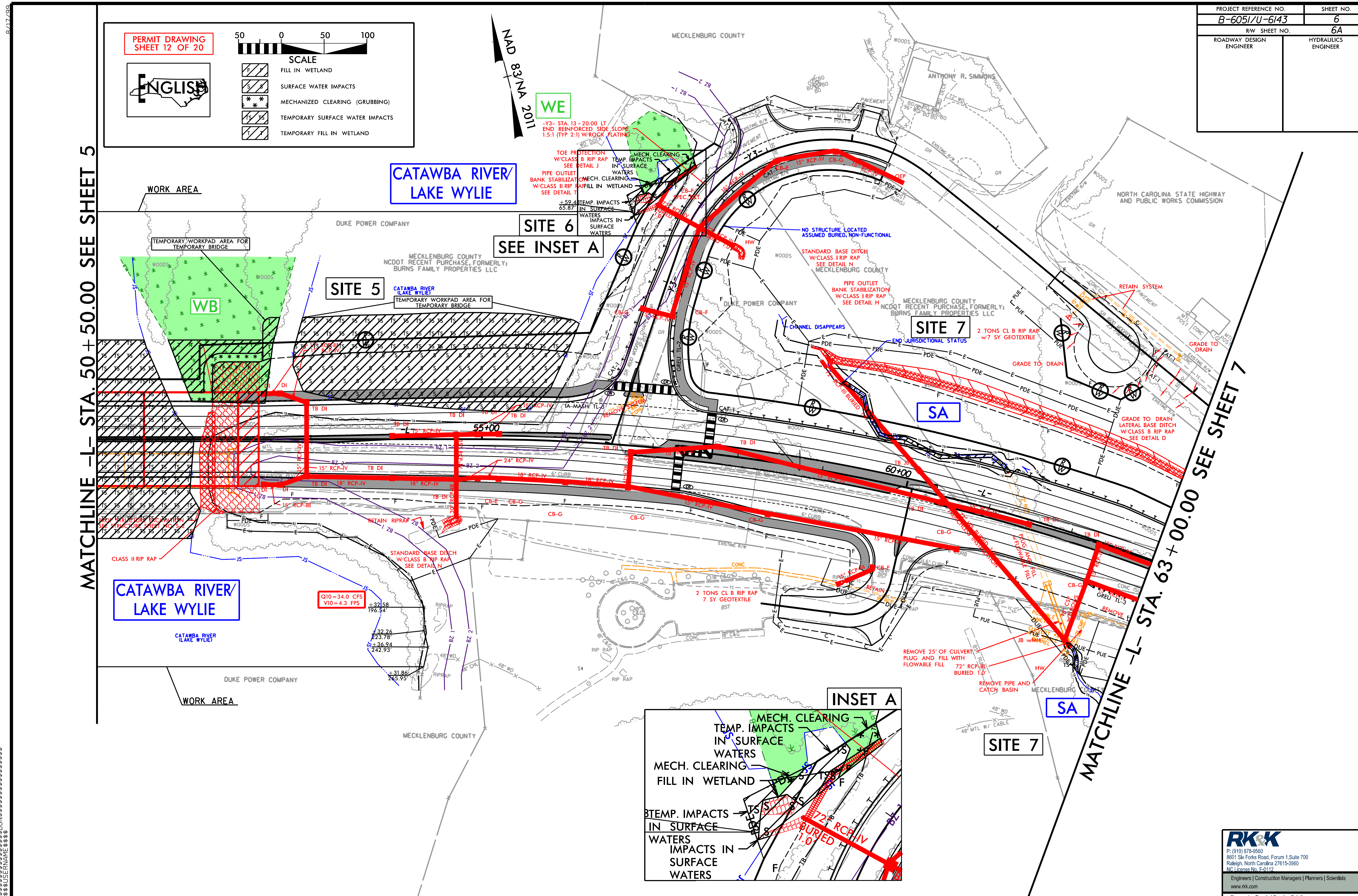
PROJECT REFERENCE NO.
B-6051/U-6143
SHEET NO.
6
R/W SHEET NO.
6A
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 12 OF 20
ENGLISH
50 0 50 100
SCALE
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY FILL IN WETLAND
NAD 83/NA 2011
MATCHLINE -L- STA. 50+50.00 SEE SHEET 5
MATCHLINE -L- STA. 63+00.00 SEE SHEET 7
WORK AREA
CATAWBA RIVER/ LAKE WYLIE
DUKE POWER COMPANY
MECKLENBURG COUNTY
TEMPORARY WORKPAD AREA FOR TEMPORARY BRIDGE
WB
WE
SITE 5
SITE 6
SITE 7
SEE INSET A
SA
MECKLENBURG COUNTY NCDOT RECENT PURCHASE, FORMERLY: BURNS FAMILY PROPERTIES LLC
ANTHONY R. SIMMONS
NORTH CAROLINA STATE HIGHWAY AND PUBLIC WORKS COMMISSION
-Y3- STA. 13+20.00 LT END REINFORCED SIDE SLOPE 1.5:1 (TYP 2:1) W/ROCK PLATING
TOE PROTECTION W/CLASS B RIP RAP SEE DETAIL J
PIPE OUTLET BANK STABILIZATION W/CLASS II RIP RAP SEE DETAIL T
+59.48 65.87'
TEMP. IMPACTS IN SURFACE WATERS
MECH. CLEARING
FILL IN WETLAND
IMPACTS IN SURFACE WATERS
NO STRUCTURE LOCATED ASSUMED BURIED, NON-FUNCTIONAL
STANDARD BASE DITCH W/CLASS I RIP RAP SEE DETAIL N
PIPE OUTLET BANK STABILIZATION W/CLASS I RIP RAP SEE DETAIL H
CHANNEL DISAPPEARS
END JURISDICTIONAL STATUS
2 TONS CL B RIP RAP w/7 SY GEOTEXTILE
GRADE TO DRAIN
RETAIN SYSTEM
GRADE TO DRAIN LATERAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL D
PROP. STRUCTURE EXCAVATION SEE STRUCTURE SHEET NO. S-2
CLASS II RIP RAP
RETAIN RIPRAP
STANDARD BASE DITCH W/CLASS B RIP RAP SEE DETAIL N
Q10=34.0 CFS V10=4.3 FPS
+32.58 196.54'
+32.26 223.78'
+36.94 242.93'
+31.86 265.95'
CATAWBA RIVER (LAKE WYLIE)
55+00
60+00
IA-MASH TL-3
REMOVE 25' OF CULVERT, PLUG AND FILL WITH FLOWABLE FILL
72" RCP-III BURIED 1.0'
REMOVE PIPE AND CATCH BASIN
PLUG AND FILL W/FLOWABLE FILL
INSET A
TEMP. IMPACTS IN SURFACE WATERS
MECH. CLEARING
FILL IN WETLAND
IMPACTS IN SURFACE WATERS
72" RCP-IV BURIED 1.0'
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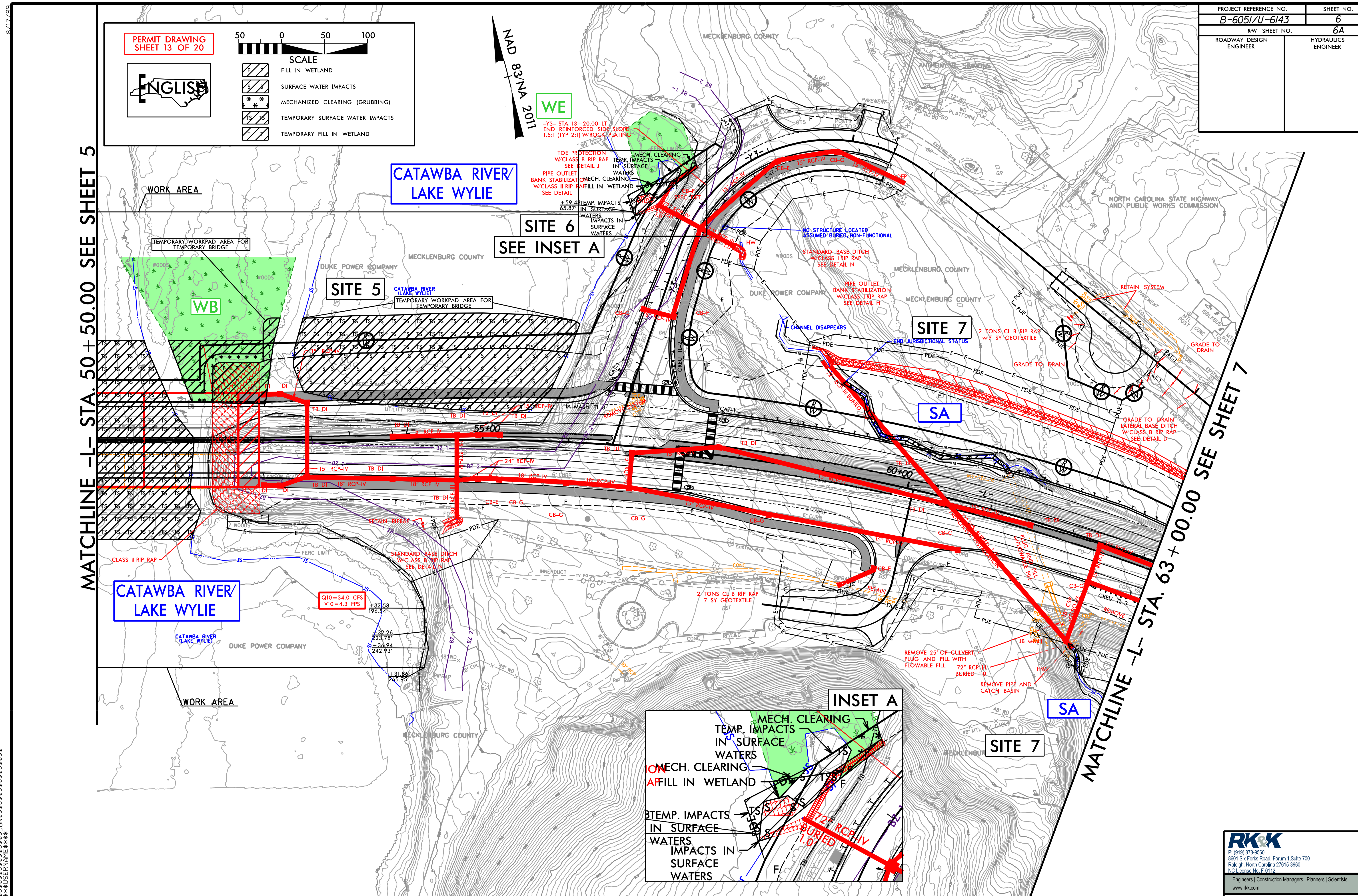
PROJECT REFERENCE NO. B-6051/U-6143
SHEET NO. 6
R/W SHEET NO. 6A
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 13 OF 20
ENGLISH
SCALE 50 0 50 100
FILL IN WETLAND
SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)
TEMPORARY SURFACE WATER IMPACTS
TEMPORARY FILL IN WETLAND
NAD 83/NA 2011
MATCHLINE -L- STA. 50+50.00 SEE SHEET 5
MATCHLINE -L- STA. 63+00.00 SEE SHEET 7
WORK AREA
TEMPORARY WORKPAD AREA FOR TEMPORARY BRIDGE
WB
WE
SA
CATAWBA RIVER/ LAKE WYLIE
CATAWBA RIVER (LAKE WYLIE)
DUKE POWER COMPANY
MECKLENBURG COUNTY
NORTH CAROLINA STATE HIGHWAY AND PUBLIC WORKS COMMISSION
ANTHONY R. SIMMONS
SITE 5
SITE 6
SITE 7
SEE INSET A
INSET A
-Y3- STA. 13+20.00 LT END REINFORCED SIDE SLOPE 1.5:1 (TYP 2:1) W/ROCK PLATING
TOE PROTECTION W/CLASS B RIP RAP SEE DETAIL J
PIPE OUTLET BANK STABILIZATION W/CLASS II RIP RAP SEE DETAIL T
MECH. CLEARING
TEMP. IMPACTS IN SURFACE WATERS
FILL IN WETLAND
IMPACTS IN SURFACE WATERS
+59.48 65.87'
NO STRUCTURE LOCATED ASSUMED BURIED, NON-FUNCTIONAL
STANDARD BASE DITCH W/CLASS I RIP RAP SEE DETAIL N
PIPE OUTLET BANK STABILIZATION W/CLASS I RIP RAP SEE DETAIL H
CHANNEL DISAPPEARS
END JURISDICTIONAL STATUS
2 TONS CL B RIP RAP w/7 SY GEOTEXTILE
GRADE TO DRAIN
RETAIN SYSTEM
GRADE TO DRAIN LATERAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL D
CLASS II RIP RAP
Q10=34.0 CFS V10=4.3 FPS
+32.58 196.54'
+32.26 223.78'
+36.94 242.93'
+31.86 265.95'
STANDARD BASE DITCH W/CLASS B RIP RAP SEE DETAIL N
RETAIN RIPRAP
2 TONS CL B RIP RAP 7 SY GEOTEXTILE
REMOVE 25' OF CULVERT, PLUG AND FILL WITH FLOWABLE FILL
72" RCP-III BURIED 1.0'
REMOVE PIPE AND CATCH BASIN
JB w/MH
72" RCP-IV BURIED 1.0'
15" RCP-IV
18" RCP-IV
24" RCP-IV
30" RCP-III
TB DI
55+00
60+00
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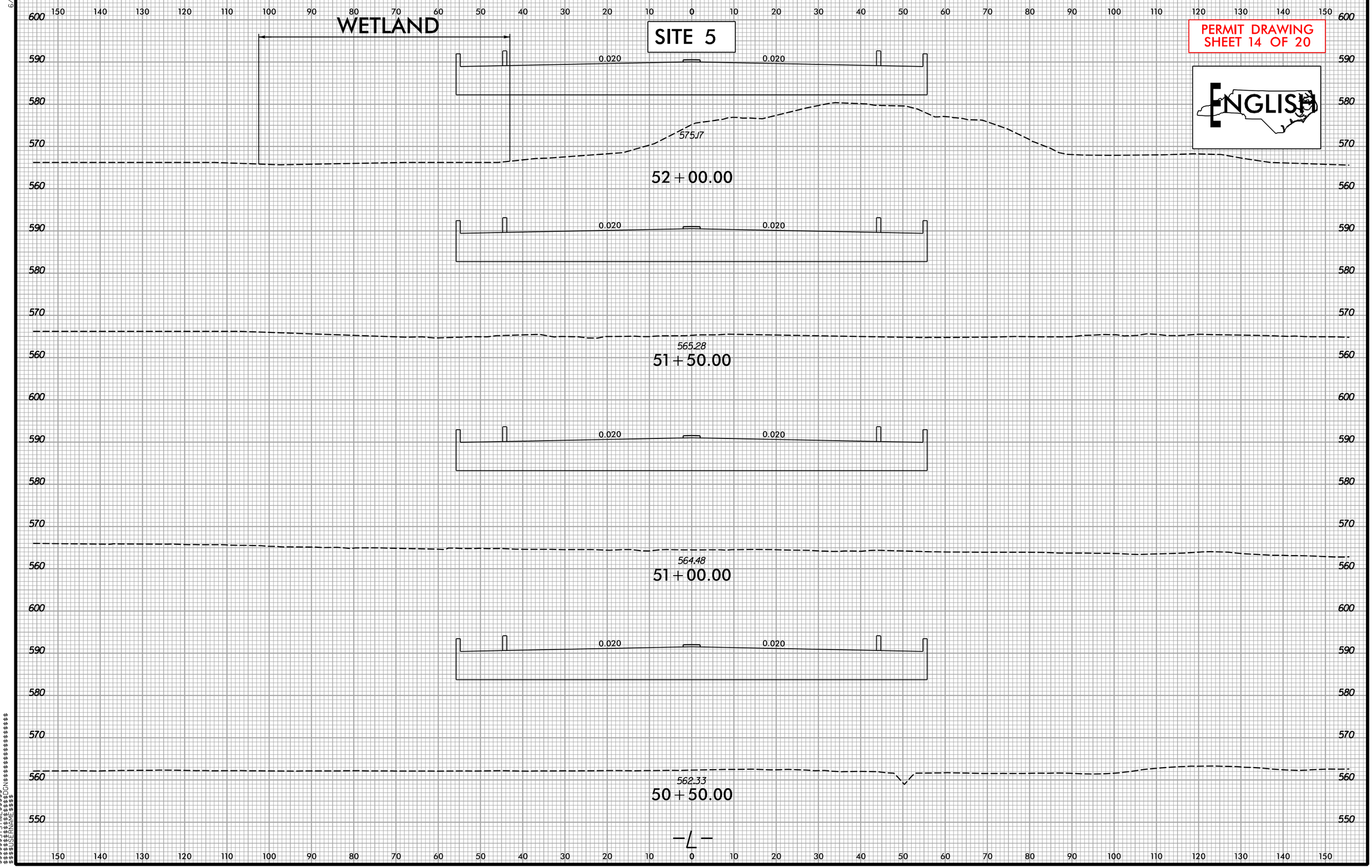
6/23/16

PROJ. REFERENCE NO.	SHEET NO.
B-6051/U-6143	X-17

PERMIT DRAWING
SHEET 14 OF 20



$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$FRAME$$$$
$$$$USER$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 6
–Y3– STA. 12+75

PERMIT DRAWING
SHEET 15 OF 20

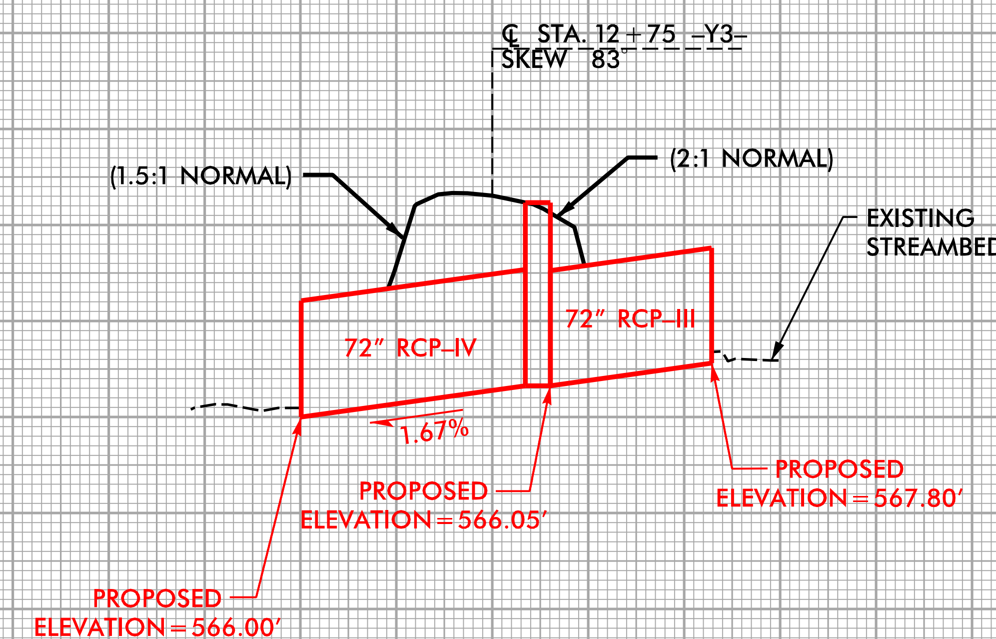
ENGLISH

590

580

570

560



72" RCP–III & RCP–IV
(buried 1')
(length = 108')

250 200 150 100 50 0 50 100 150 200 250

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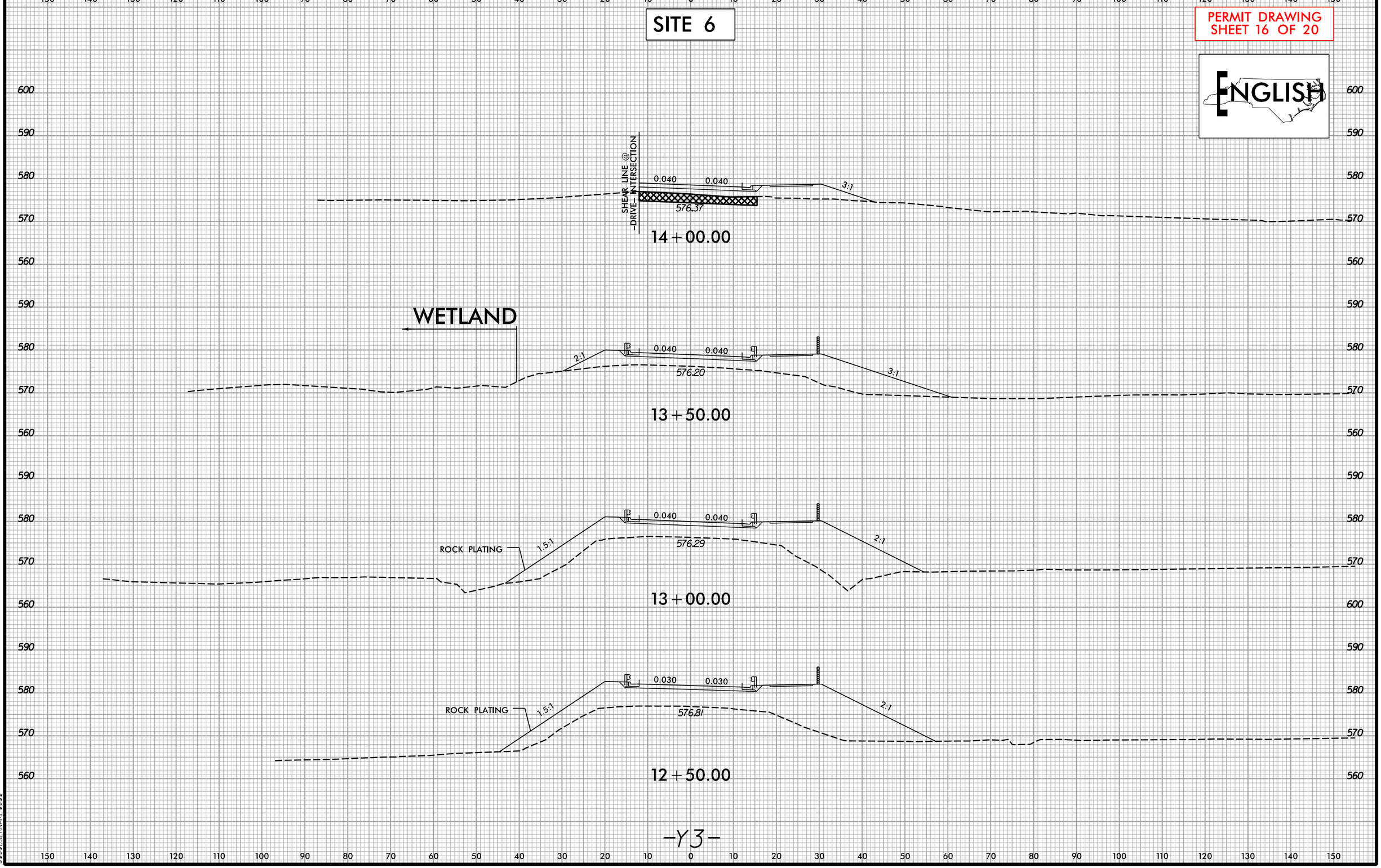
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
B-6051/U-6143	X-37

PERMIT DRAWING
SHEET 16 OF 20

SITE 6



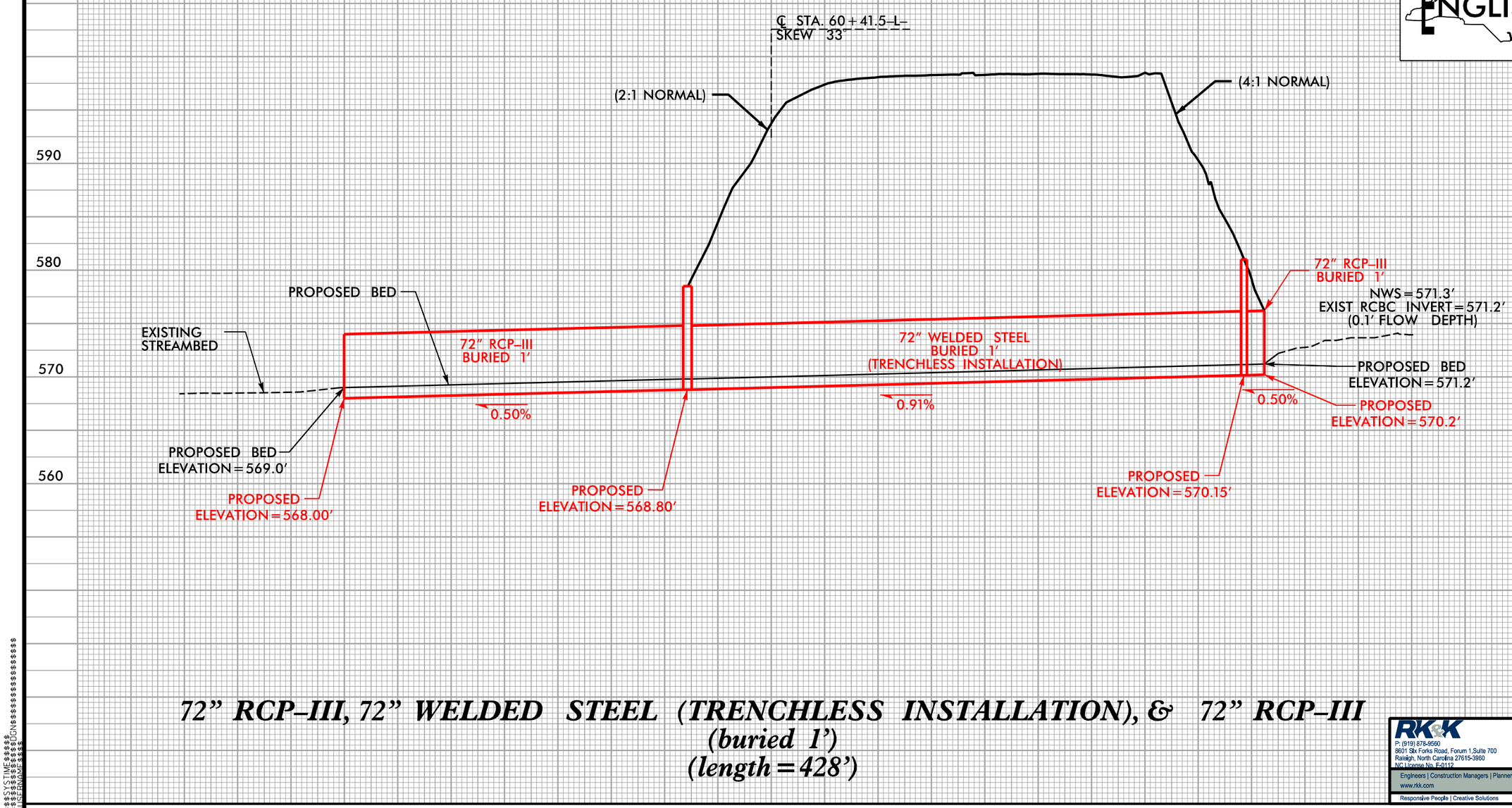
$$$$SYSTIME$$$$
$$$$SCREN$$$$
$$$$PRAM$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 7
–L– STA. 60+41.5

PERMIT DRAWING
SHEET 17 OF 20



72" RCP–III, 72" WELDED STEEL (TRENCHLESS INSTALLATION), & 72" RCP–III
(buried 1')
(length=428')

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	9
R/W SHEET NO.	9A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

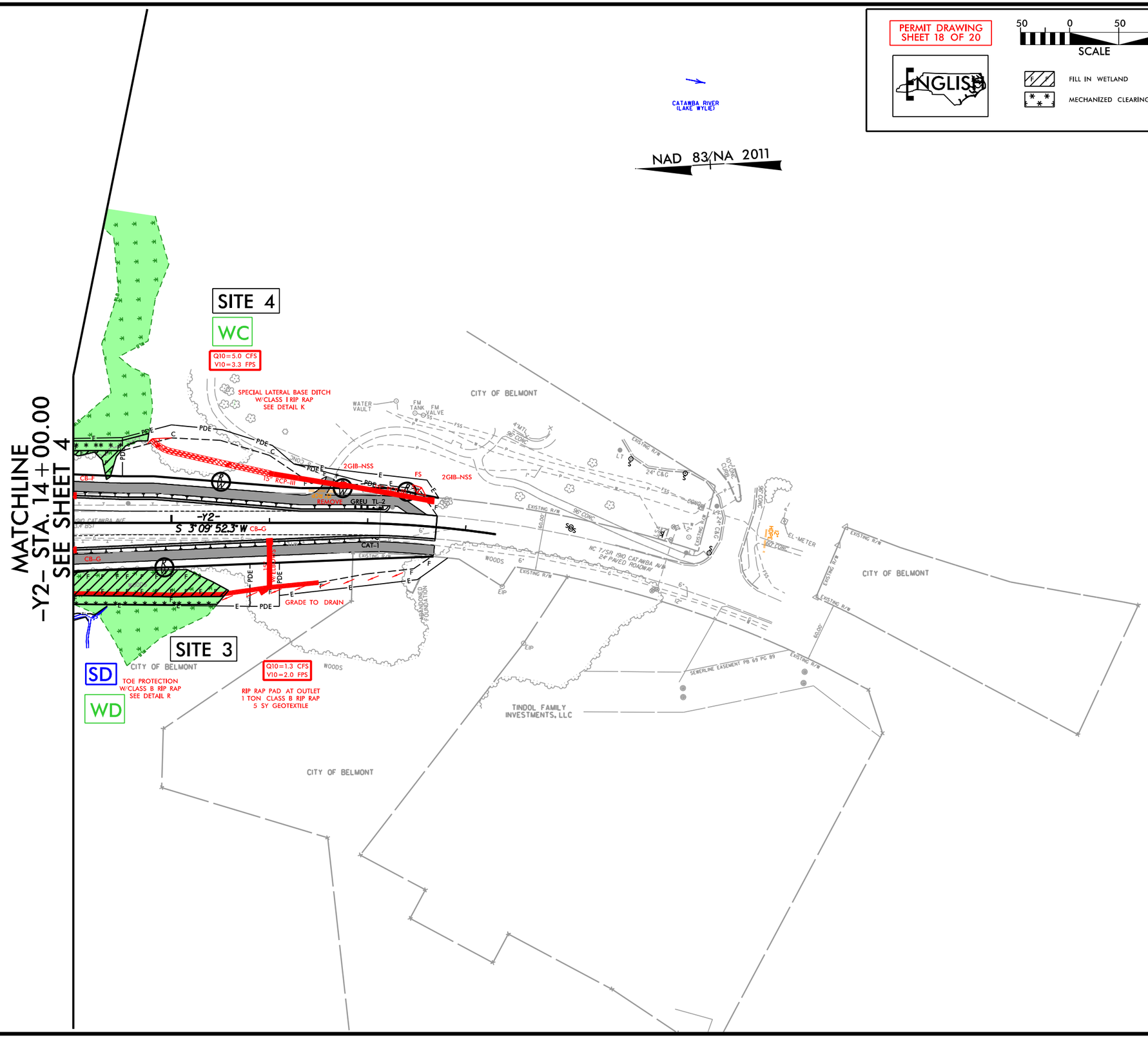
PERMIT DRAWING
SHEET 18 OF 20

ENGLISH

50 0 50 100
SCALE

FILL IN WETLAND

MECHANIZED CLEARING (GRUBBING)



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$$$$$SYSTIME$$$$$
$$$$$USERNAME$$$$$DGN$$$$$$$$$$$$$$$$$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	9
R/W SHEET NO.	9A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

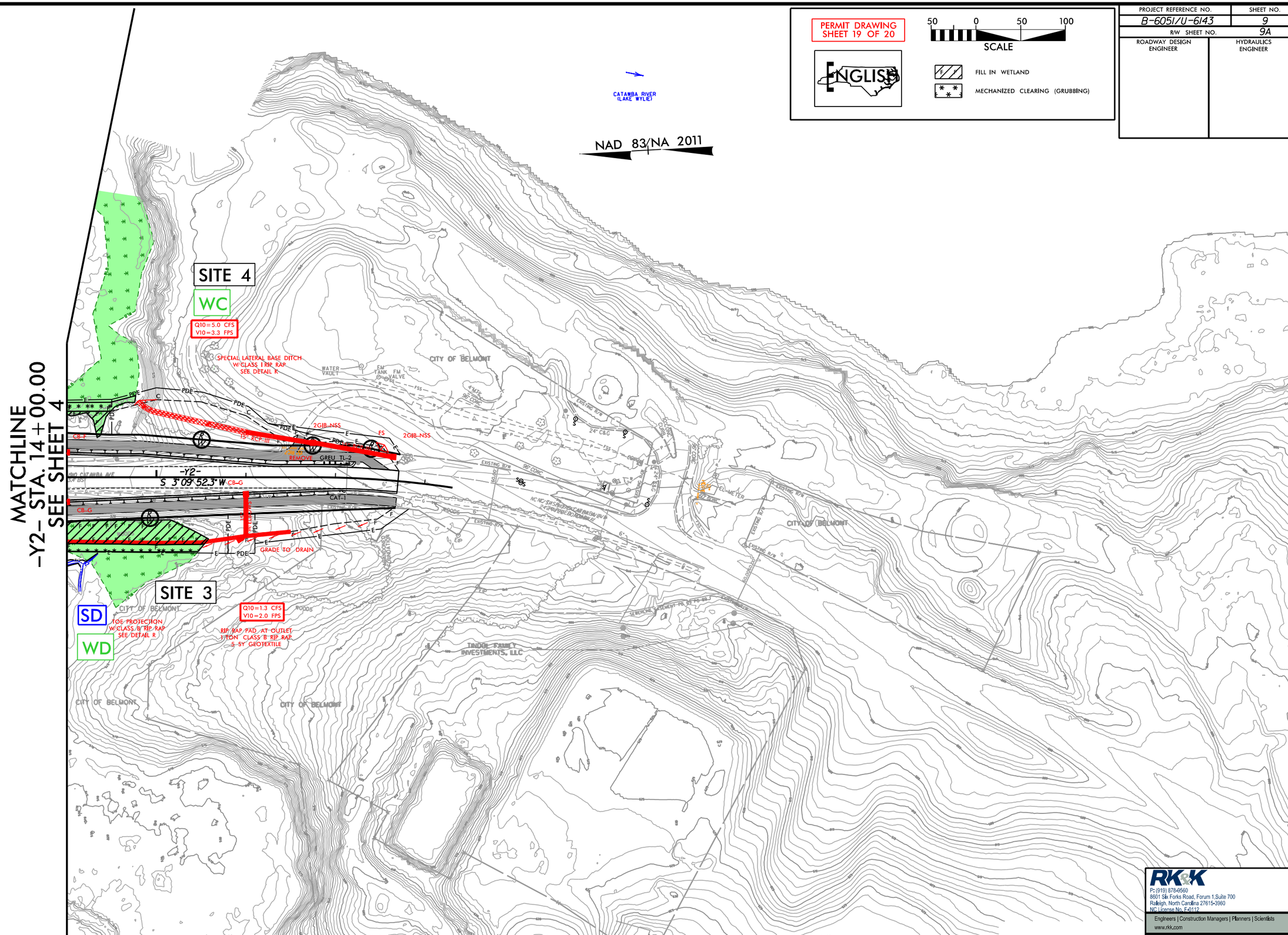
PERMIT DRAWING
SHEET 19 OF 20

ENGLISH

50 0 50 100
SCALE

FILL IN WETLAND

MECHANIZED CLEARING (GRUBBING)



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$$$$$SYSTIME$$$$$
$$$$$USERNAME$$$$$DGN$$$$$$$$$$$$$$$$$$$$$

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From / To)	Structure Size / Type	Permanent Fill in Wetlands (ac)	Temp Fill in Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW Impacts (ac)	Temp SW Impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp (ft)	Natural Stream Design (ft)
1	29+97 to 30+09 -L- RT	Bank Stabilization - SB						0.004	0.003	42	30	
2	12+58.3 -Y2- LT	2 @ 8'x11' RCBC - SC						0.023		70		
		Bank Stabilization - SC						0.035	0.006	101	18	
	12+08 to 12+58 -Y2- LT	Roadway Fill - WA	0.016			0.007						
3	12+80 to 14+61 -Y2- LT	Roadway Fill - SD						0.009	< 0.001	109	7	
	13+68 to 15+58 -Y2- LT	Roadway Fill - WD	0.098			0.031						
4	13+87 to 14+62 -Y2- RT	Roadway Fill - WC	0.010			0.018						
5	39+98 to 40+45 -L- RT	Temp. Workpad For Bridge							0.016		13	
	40+52 to 51+71 -L-	Bridge - Catawba River/Lake Wylie						0.075	0.056	148	20	
	51+33 to 52+53 -L-	Bridge - WB	0.071			0.029						
	40+40 to 51+71 -L-	Temp. Trestle[1] - WB		0.069					5.293		19	
	12+28 to 12.71 -MUP-	42" RCP-III - Catawba River /Lake Wylie						0.003	0.007	14	14	
	52+79 to 55+95 -L- LT	Roadway Fill - Catawba River/Lake Wylie						0.434		23		
	52+44 to 56+07 -L- LT	Temp. Workpad For Bridge - WB		0.015					0.314		41	
6	12+59 to 13+38 -Y3- LT	Bank Stabilization - Catawba River/Lake Wylie						0.009	0.006	27	6	
		Roadway Fill/Toe Protection - Catawba River /Lake Wylie - WE	0.003			0.006		0.002	0.012	19	11	
7	59+04 to 62+63 -L-	Roadway Fill - SA						0.024	0.002	261	17	
TOTALS*:			0.198	0.084	0.000	0.091	0.000	0.618	5.713	814	196	0

*Rounded totals are sum of actual impacts

NOTES:

Permanent Pier Stream Impacts - 938 sq.ft.

[1]Temporary dual trestle bridges for constructability and removal of existing bridge. Impacts are driven solely by temporary bridge piers; they cover the entire work area to provide flexibility to the contractor for the location and adjustment of work bridges as needed.

[2]Total Fill in Wetlands due to riprap - 0.37 sq. ft.

Revised 2018 Feb

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5/20/2024
GASTON / MECKLENBURG COUNTY
B-6051 / U-6143

TIP PROJECT: B-6051 / U-6143

CONTRACT NO:

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-6051 / U-6143	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
48708.1.1		P.E.
48326.1.1		P.E.

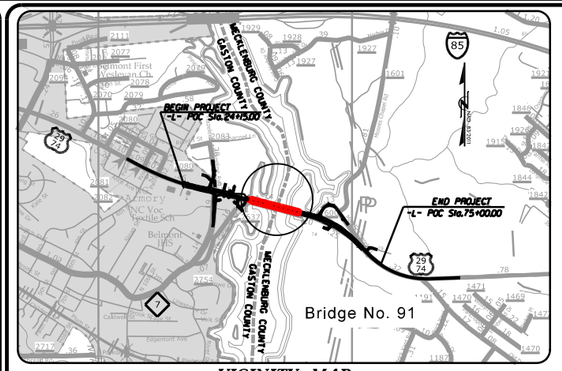
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON / MECKLENBURG COUNTIES

LOCATION: BRIDGE NO. 91 OVER CATAWBA RIVER ON US 29 /US 74 AND INTERSECTION IMPROVEMENTS ON US 29 /US 74 (WILKINSON BLVD) AND NC 7 (CATAWBA ST)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, CULVERT, AND RESURFACING

BUFFER IMPACTS PERMIT

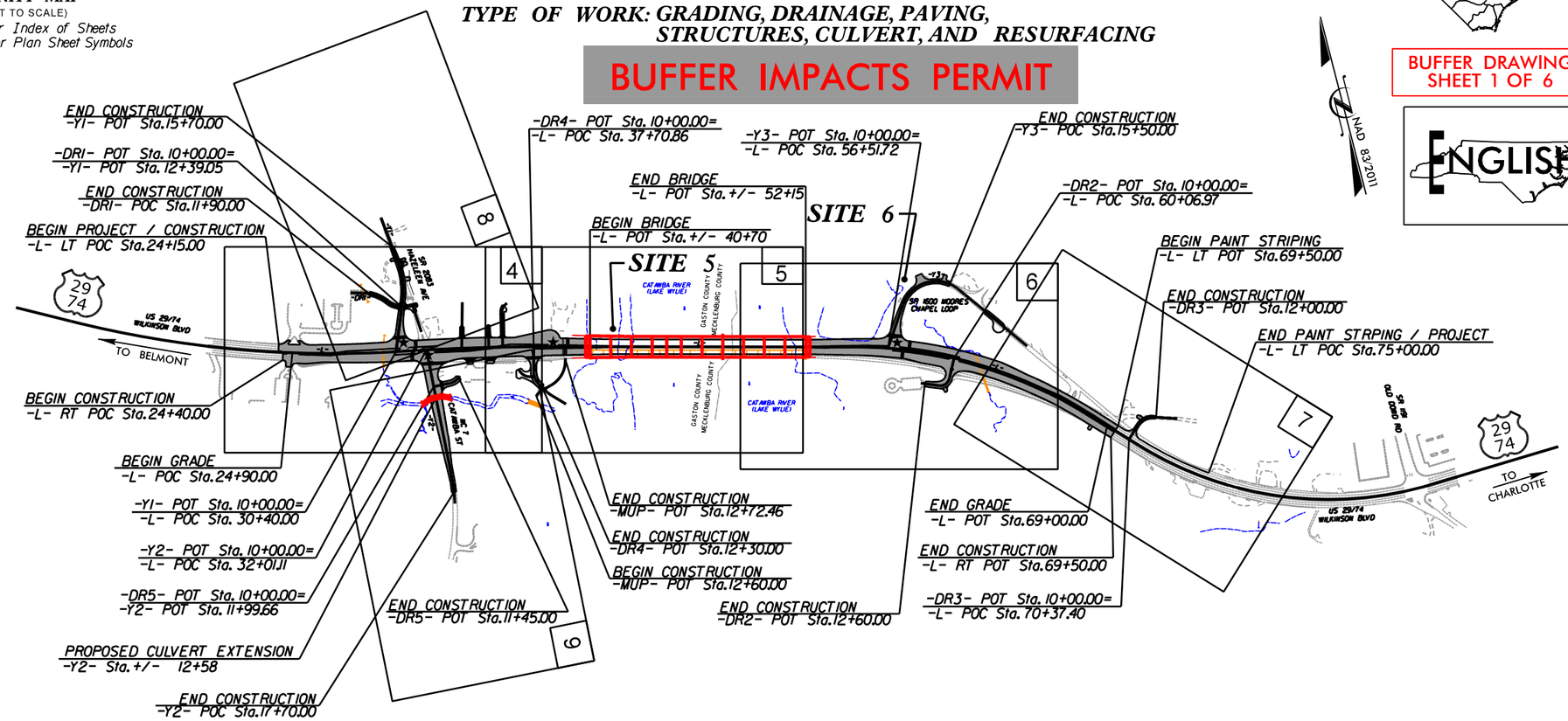


VICINITY MAP
(NOT TO SCALE)
See Sheet 1A For Index of Sheets
See Sheet 1B For Plan Sheet Symbols

BUFFER DRAWING SHEET 1 OF 6

ENGLISH

NAD 83/2011



NOTES:
1. THIS PROJECT IS PARTIALLY WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF BELMONT.
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ___.

★ TRAFFIC SIGNAL

GRAPHIC SCALES

50 0 50 100
PLANS

50 0 50 100
PROFILE (HORIZONTAL)

10 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2024 = 25,476
ADT 2044 = 30,690
DHV = 11%
DIR = 80%
T = 6%*
V = 50 MPH
(* TTST = 2% / DUAL 4%)

FUNC CLASS = MAJOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-6051 /U-6143	=	0.746 mi
LENGTH STRUCTURE TIP PROJECT B-6051 /U-6143	=	0.217 mi
TOTAL LENGTH TIP PROJECT B-6051 /U-6143	=	0.963 mi

PLANS PREPARED BY:
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FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 23, 2023

LETTING DATE:
JUNE 18, 2024

Scott D. Blevins, P.E.
PROJECT ENGINEER

Carter Mull, P.E.
PROJECT DESIGN ENGINEER

David Stutts, P.E.
NCDOT CONTACT

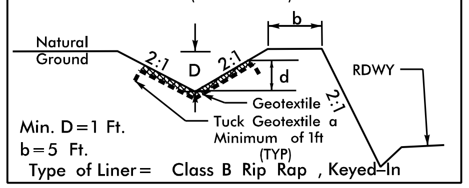
HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

BUFFER DRAWING SHEET 2 OF 6

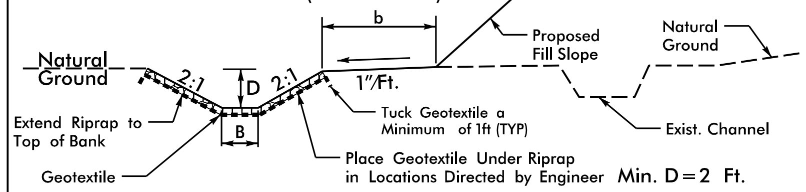
DETAIL A
BERM 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
b=5 Ft.
Type of Liner= Class B Rip Rap , Keyed-In

–L– STA. 36+35 TO STA. 38+00 LT
37 TON RIP RAP, 82 SY GEOTEXTILE

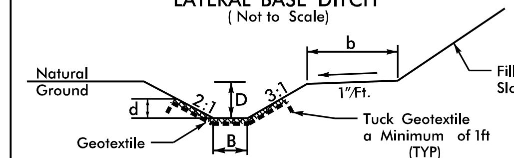
DETAIL B
CHANNEL CHANGE
(Not to Scale)



Min. D=2 Ft.
B=4 Ft.
b=10 Ft.
Type of Liner= Class B Rip Rap, Keyed-In

–Y2– STA. 12+88 TO STA. 13+83 RT
100 TON RIP RAP, 218 SY GEOTEXTILE

DETAIL C
LATERAL BASE DITCH
(Not to Scale)

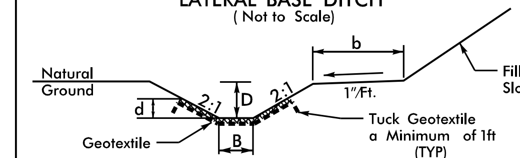


Detail Applies When B is < 6.0'
for Class I and II Rip-Rap;
And All Widths for Class B Rip-Rap

Min. D=1 Ft.
d=1 Ft.
B=2 Ft.
b=5 Ft.
Type of Liner= Class B Rip-Rap, Keyed-In

–MUP– STA. 11+85 TO STA. 12+18 LT
9 TON RIP RAP, 20 SY GEOTEXTILE

DETAIL D
LATERAL BASE DITCH
(Not to Scale)

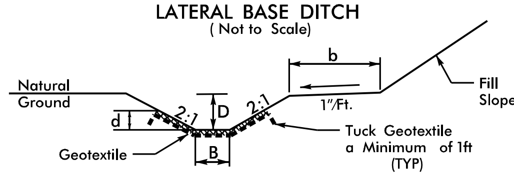


Detail Applies When B is < 6.0'
for Class I and II Rip-Rap;
And All Widths for Class B Rip-Rap

Min. D= 1 Ft.
d= 1 Ft.
B= 4 Ft.
b= 5 Ft.
Type of Liner=Cl B Rip-Rap, Keyed-In

–L– STA. 59+00* TO STA. 68+34 LT
*DITCH CONTINUES FOR 30' BEYOND –L– 59+00,
TIES W/EXIST. CHAN. OAL=964' (APPROX.)
408 TON RIP RAP, 907 SY GEOTEXTILE

DETAIL E
LATERAL BASE DITCH
(Not to Scale)

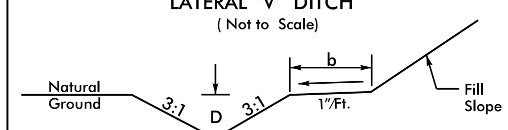


Detail Applies When B is < 6.0'
for Class I and II Rip-Rap;
And All Widths for Class B Rip-Rap

Min. D=2 Ft.
d=2 Ft.
B=4 Ft.
b=5 Ft.
Type of Liner= Class B Rip-Rap, Keyed-In

–L– STA. 38+50 TO STA. 39+15 RT
42 TON RIP RAP, 93 SY GEOTEXTILE

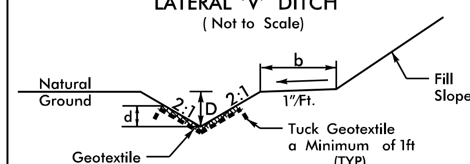
DETAIL F
LATERAL 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
b=5 Ft.

–L– STA. 27+10 LT TO STA. 29+83 LT
–Y1– STA. 11+05* LT TO STA. 11+25 LT
–Y1– STA. 13+25 LT TO STA. 14+00 LT
*DITCH CONTINUES FOR 37.2' BEYOND –Y1– 11+05,
CURVES TO TIE AT –L– 29+83.

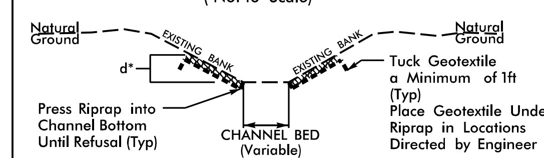
DETAIL G
LATERAL 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
d=1 Ft.
b=5 Ft.
Type of Liner= Cl B Rip-Rap, Keyed-In

–L– STA. 38+20 TO STA. 38+50 RT
7 TON RIP RAP, 15 SY GEOTEXTILE

DETAIL H
PIPE OUTLET BANK STABILIZATION
(Not to Scale)

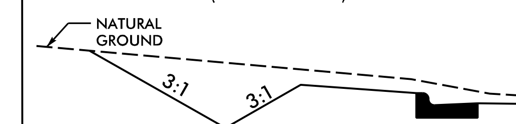


*Rip-Rap to be Installed to 2ft Outside Top of Ditch Slopes on Jurisdictional Streams

Length=20 Ft.
Type of Liner= Class I Rip-Rap, Keyed-In

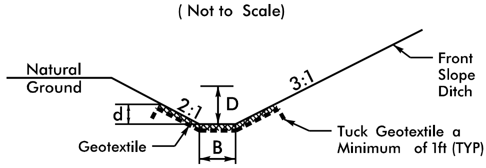
–L– STA. 29+83 RT (d=5ft*)
40 TON RIP RAP, 75 SY GEOTEXTILE
–L– STA. 58+87 LT (d=3.5ft*)
57 TON RIP RAP, 104 SY GEOTEXTILE

DETAIL I
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



–L– STA. 31+50 TO STA. 33+50 LT
–Y1– STA. 11+25 TO STA. 11+75 LT
–Y1– STA. 12+68 TO STA. 13+25 LT

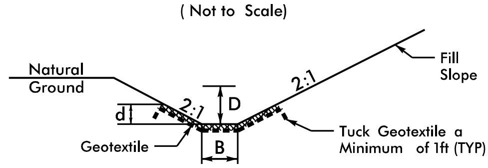
DETAIL J
SPECIAL BASE DITCH
(Not to Scale)



Min. D=1 Ft.
d=1 Ft.
B=2 Ft.
Type of Liner= Class B Rip-Rap, Keyed-In

–MUP– STA. 11+00 TO STA. 11+85 LT
28 TON RIP RAP, 63 SY GEOTEXTILE

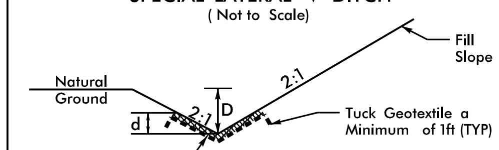
DETAIL K
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D=1 Ft.
d=1 Ft.
B=2 Ft.
Type of Liner= Class I Rip-Rap, Keyed-In

–Y2– STA. 15+00* TO STA. 16+00 LT
*DITCH CONTINUES FOR 25' BEYOND –Y2– 15+00,
CURVES TO TIE W/NG. OAL=125' (APPROX.)
42 TON RIP RAP, 90 SY GEOTEXTILE

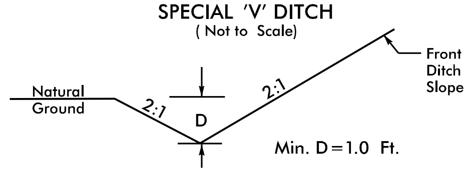
DETAIL L
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D=1 Ft.
d=1 Ft.
Type of Liner= Cl A Rip-Rap, Keyed-In

–DR3– STA. 10+61 TO 11+00 LT
8 TON RIP RAP, 19 SY GEOTEXTILE
–DR3– STA. 10+58 TO 11+00 RT
9 TON RIP RAP, 21 SY GEOTEXTILE

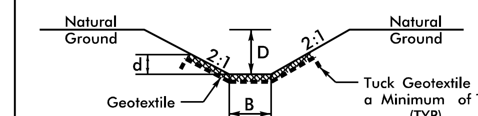
DETAIL M
SPECIAL 'V' DITCH
(Not to Scale)



Min. D=1.0 Ft.

–DR10– STA. 10+40 TO STA. 10+75 LT

DETAIL N
STANDARD BASE DITCH
(Not to Scale)

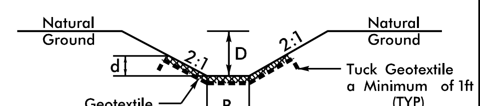


Detail Applies When B is < 6.0'
for Class I and II Rip-Rap;
And All Widths for Class B Rip-Rap

Min. D=2 Ft.
d=2 Ft.
B=4 Ft.
Type of Liner= Class I Rip-Rap, Keyed-In

–L– STA.39+90 RT, L=38', S=3.3%,
BEG. ELEV=567.4', END ELEV=566.2'
26 TON RIP RAP, 55 SY GEOTEXTILE
–L– STA. 54+70 RT, L=16', S=3.1%,
BEG. ELEV=580.5', END ELEV=580.0'
11 TON RIP RAP, 23 SY GEOTEXTILE
–L– STA. 69+75 LT, L=70', S=5.6%,
BEG. ELEV=628.9', END ELEV=625.0'
48 TON RIP RAP, 101 SY GEOTEXTILE
–Y3– STA. 12+75 RT, L=20', S=1.0%,
BEG. ELEV=567.8', END ELEV=567.8'
14 TON RIP RAP, 29 SY GEOTEXTILE

DETAIL O
STANDARD BASE DITCH
(Not to Scale)

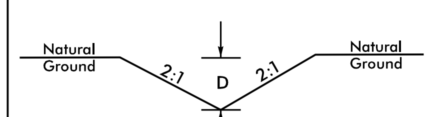


Detail Applies When B is < 6.0'
for Class I and II Rip-Rap;
And All Widths for Class B Rip-Rap

Min. D=2.5 Ft.
d=2.5 Ft.
B=4 Ft.
Type of Liner= Class B Rip-Rap, Keyed-In

–L– STA. 29+78 LT, L=75', S=2.33%
BEG. ELEV=587.75', END ELEV=586.00'
57 TON RIP RAP, 127 SY GEOTEXTILE

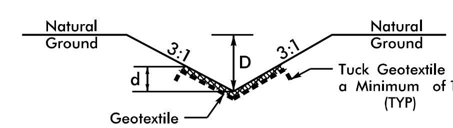
DETAIL P
STANDARD 'V' DITCH
(Not to Scale)



Min. D=1.5 Ft.

–Y1– STA. 13+50 RT, L=93', S=4.32%
BEG. ELEV=599.25', END ELEV=595.25'
–DR11– STA. 10+25 LT, L=69', S=3.63%
BEG. ELEV=593.50', END ELEV=591.00'

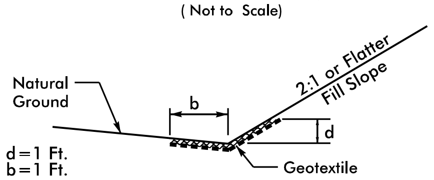
DETAIL Q
STANDARD 'V' DITCH
(Not to Scale)



Min. D=1.5 Ft.
d=1.0 Ft.
Type of Liner= Cl B Rip-Rap, Keyed-In

–DR11– STA. 11+33 LT, L=31', S=6.41%
BEG. ELEV=588.12', END ELEV=586.12'
10 TON RIP RAP, 22 SY GEOTEXTILE
–DR11– STA. 11+24 RT, L=35', S=9.20%
BEG. ELEV=590.23', END ELEV=586.97'
11 TON RIP RAP, 25 SY GEOTEXTILE

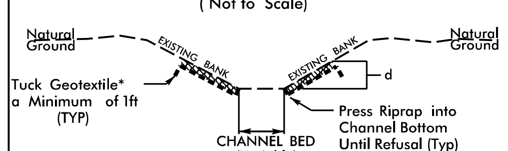
DETAIL R
TOE PROTECTION
(Not to Scale)



d=1 Ft.
b=1 Ft.
Type of Liner= Class B Rip-Rap

–L– STA. 65+50 TO STA. 68+00 RT
103 TON RIP RAP, 229 SY GEOTEXTILE
–Y2– STA. 11+10 TO STA. 12+61 RT
62 TON RIP RAP, 138 SY GEOTEXTILE
–Y2– STA. 13+00 TO STA. 16+50 RT
144 TON RIP RAP, 321 SY GEOTEXTILE

DETAIL S
BANK STABILIZATION ON BANKS ONLY
(Not to Scale)

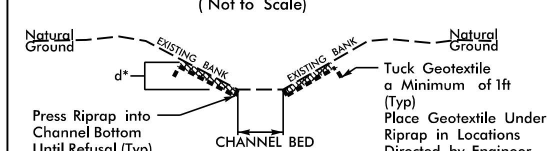


*Place Geotextile Under Riprap in Locations Directed by Engineer

Length= Varies
d= Varies
Est.= Class B Rip-Rap, Keyed-In

–Y2– STA. 12+60 LT; 3 TON RIP RAP, 7 SY GEOTEXTILE
–Y2– STA. 12+95 LT; 15 TON RIP RAP, 33 SY GEOTEXTILE
–Y2– STA. 12+85 RT; 7 TON RIP RAP, 16 SY GEOTEXTILE

DETAIL T
PIPE OUTLET BANK STABILIZATION
(Not to Scale)



*Rip-Rap to be Installed to 2ft Outside Top of Ditch Slopes on Jurisdictional Streams

Length=25 Ft.
d=3 Ft.*
Type of Liner= Class II Rip-Rap, Keyed-In

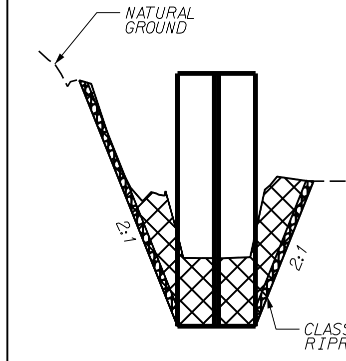
–Y3– STA. 12+75 LT
72 TON RIP RAP, 104 SY GEOTEXTILE

COMBINED QUANTITIES FOR DETAILS U AND V

PERMANENT CHANNEL EXCAVATION

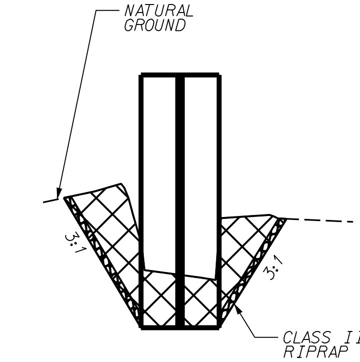
TOTAL CHANNEL EXCAVATION = 83 CY
TOTAL CL II RIP RAP = 40 TONS
TOTAL GEOTEXTILE FAB. = 41 SY

DETAIL U



OUTLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH=17'

DETAIL V



INLET CHANNEL IMPROVEMENTS
LOOKING DOWNSTREAM (NTS)
LENGTH=18'

8/17/99
1/12/2024
R:\Hydraulics\PERMITS_Environmental\Drawings\Buffer Impacts\B-6051_hyd_psh02D.dgn
bbuskey

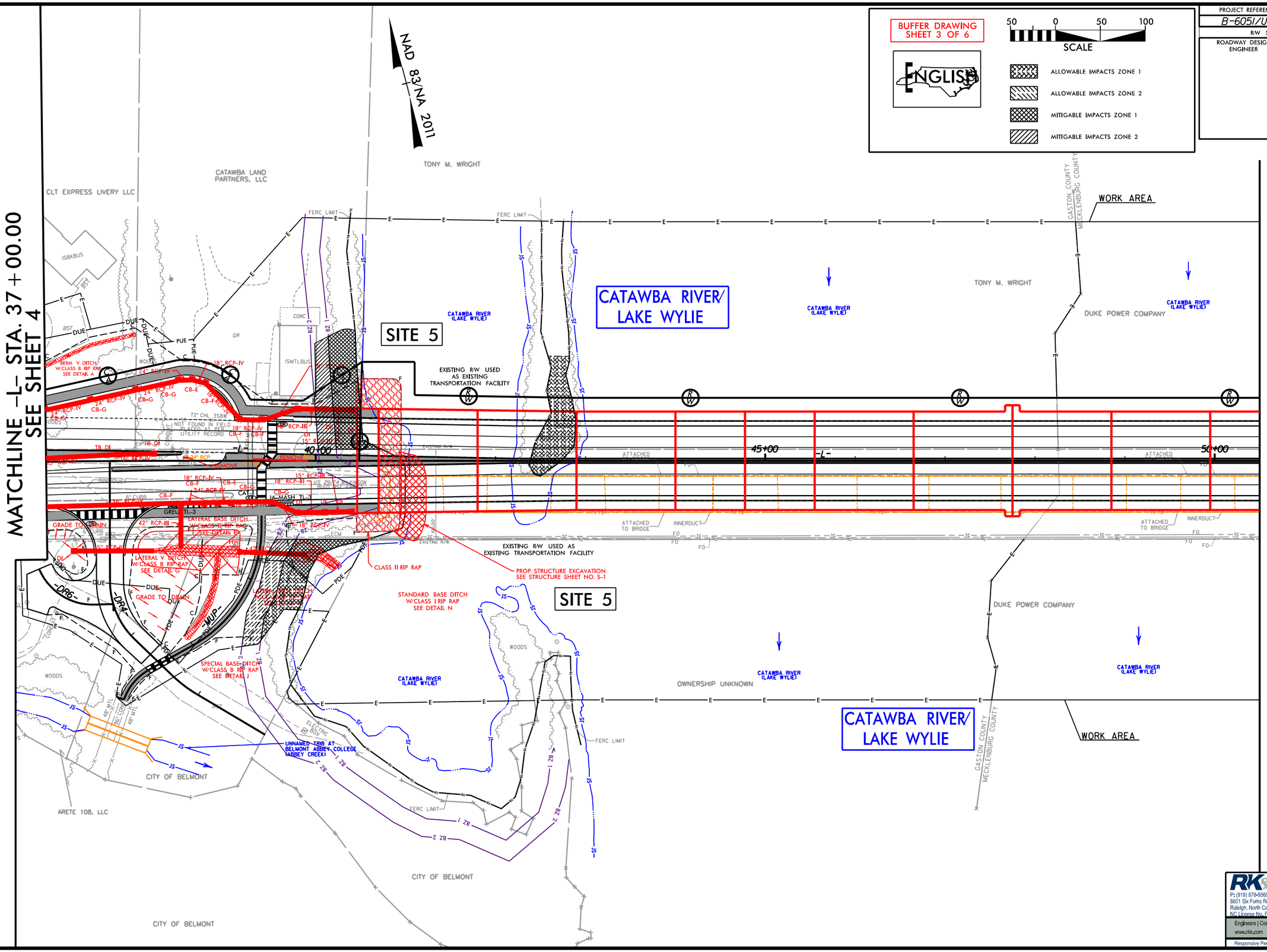
PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	5
R/W SHEET NO.	5A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BUFFER DRAWING SHEET 3 OF 6

ENGLISH

SCALE 50 0 50 100

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2



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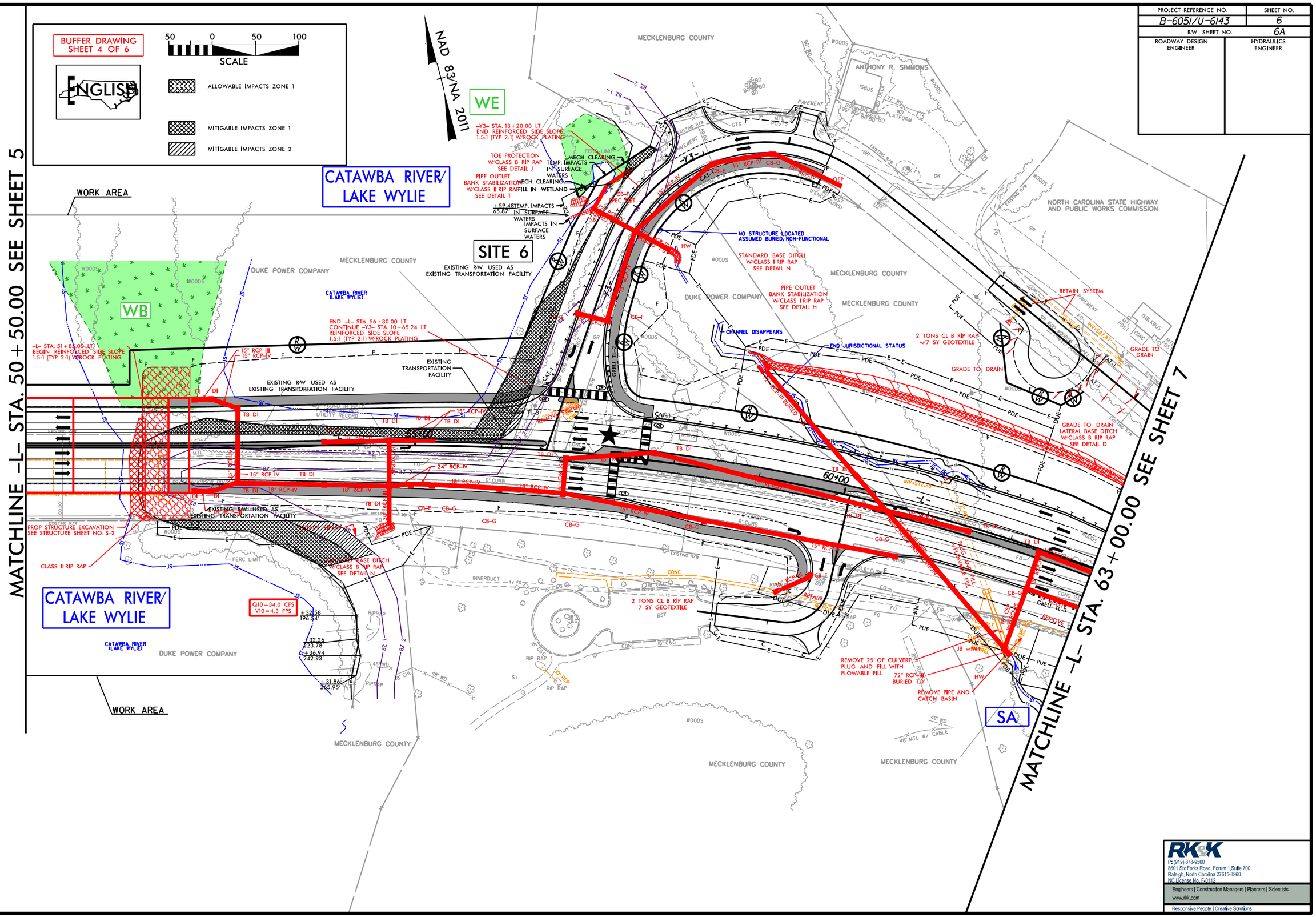
$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-6051/U-6143	6
R/W SHEET NO.	6A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$

RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From / To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
5	11+41 to 12+30 -MUP- RT	Roadway Fill - MUP			X	1735	1963	3698					
	39+21 to 40+70 -L-	Roadway Fill - Widening / MUP 42" RCP-III / Std. Base Ditch	X						5523	2755	8278		
	40+70 to 52+15 -L-	1145' Bridge		X		3826	0	3826					
	52+15 to 54+10 -L-	Roadway Fill - Widening	X						8250	1549	9799		
6	10+00 to 13+65 -Y3- LT	Roadway Fill - Widening 72" RCP-IV			X				5962	398	6360		
TOTALS*:						**5561**	**1963**	**7524**	**19735**	**4702**	**24437**	**0**	**0**

NOTES:
Top of Bank for Catawba River (Lake Wylie) revised to Lake Wylie full pond elevation (569.4'). Buffer lines revised accordingly.
Bridge BZ1 impacts due to small areas above TB on peninsula on parcel 13 and at both bridge abutments.
Existing R/W lines for -L-/-Y3- used as boundaries of Existing Transportation Facility for consistency between sites.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
1/12/2024
GASTON / MECKLENBURG COUNTY
B-6051 / U-6143

Revised 2018 Feb

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)		WETLANDS IN BUFFERS	
			ZONE 1 (ft^2)	ZONE 2 (ft^2)
6	13+00 to 13+31 -Y3-LT		74	0
TOTAL:			**74**	**0**

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
1/12/2024
GASTON / MECKLENBURG COUNTY
B-6051 / U-6143

Revised 2018 Feb

Rev. Jan 2009